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=> file medline

FILE 'MEDLINE' ENTERED AT 11:56:11 ON 12 AUG 1998

 FILE LAST UPDATED: 11 AUG 1998 (19980811/UP). FILE COVERS 1966 TO DATE.

 THE MEDLINE FILE WAS RELOADED FEBRUARY 15, 1998, TO REFLECT THE ANNUAL
 MESH (MEDICAL SUBJECT HEADING) CHANGES. ENTER HELP RLOAD FOR DETAILS.

 THIS FILE CONTAINS CAS REGISTRY NUMBERS FOR EASY AND ACCURATE
 SUBSTANCE IDENTIFICATION.

=> d his


     FILE 'MEDLINE' ENTERED AT 11:51:55 ON 12 AUG 1998
L1          3894 S BREATH TESTS/CT
L2           843 S NITRIC OXIDE (L) AN/CT
L3          3966 S CARBON DIOXIDE (L) AN/CT
                 E PALATE/CT
L4          1465 S E8
L5          3049 S NASAL CAVITY/CT
                 E VELUM/CT
                 E VELLUM/CT
L6           446 S L1 AND (L2 OR L3)
L7             2 S L6 AND (L4 OR L5)

     FILE 'MEDLINE' ENTERED AT 11:56:11 ON 12 AUG 1998

=> d l7 1-2 all


L7   ANSWER 1 OF 2  MEDLINE
AN   97371496     MEDLINE
DN   97371496
TI   Nasal contribution to exhaled nitric oxide during exhalation against
     resistance or during breath holding.
AU   Kharitonov S A; Barnes P J
CS   Department of Thoracic Medicine, National Heart and Lung Institute,
     Imperial School of Medicine, London, UK.
SO   THORAX, (1997 Jun) 52 (6) 540-4.
     Journal code: VQW. ISSN: 0040-6376.
CY   ENGLAND: United Kingdom
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   Priority Journals; Cancer Journals
EM   199710
EW   19971001
AB   BACKGROUND: The concentration of nitric oxide (NO) is increased in
     the exhaled air of patients with inflammation of the airways,
     suggesting that this may be a useful measurement to monitor
     inflammation in diseases such as asthma. However, there have been
     concerns that exhaled NO may be contaminated by the high
     concentrations of NO derived from the upper airways, and that this
     may account for differences in reported values of exhaled NO using
     different techniques. A study was performed, with argon as a tracer,
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to determine the extent of nasal contamination of exhaled NO using different expiratory manoeuvres. METHODS: Exhaled and nasal NO were measured by a chemiluminescence analyser. Argon (4.8%) was delivered continuously to the nose. Gas was sampled from the posterior oropharynx and argon and carbon dioxide were measured by mass spectrometry at the same time as NO. RESULTS: During a single expiration against a low resistance and during breath holding there was no evidence for nasal contamination, whereas during exhalation without resistance argon concentration in the oropharynx was increased from 0.91% (95% CI 0.84% to 0.98%) in ambient air to 1.28% (0.9% to 2.24%, $p < 0.0001$) during a single breath or 2.37% (2.29% to 2.51%, $p < 0.0001$) during tidal breathing. CONCLUSIONS: Collection of exhaled NO in a reservoir during tidal breathing is likely to be contaminated by NO derived from the nose and this may underestimate any increases in NO derived from the lower respiratory tract in inflammatory diseases. However, with slow expiration against a resistance and created back pressure to close the soft palate, there is no contamination of exhaled air which then reflects concentrations of NO in the lower airways.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Adult
Airway Resistance
Argon
Biological Markers: AN, analysis
***Breath Tests: MT, methods**
Chemiluminescence
Nasal Cavity
***Nitric Oxide: AN, analysis**
Oropharynx
Spectrum Analysis, Mass

RN 10102-43-9 (Nitric Oxide); 7440-37-1 (Argon)
CN 0 (Biological Markers)

L7 ANSWER 2 OF 2 MEDLINE
AN 97154604 MEDLINE
DN 97154604
TI Marked flow-dependence of exhaled nitric oxide using a new technique to exclude nasal nitric oxide.
AU Silkoff P E; McClean P A; Slutsky A S; Furlott H G; Hoffstein E; Wakita S; Chapman K R; Szalai J P; Zamel N
CS Department of Medicine, the University of Toronto, Ontario, Canada.
SO AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (1997 Jan) 155 (1) 260-7.
Journal code: BZS. ISSN: 1073-449X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199704
EW 19970403
AB Exhaled nitric oxide (NO) may aid in monitoring pulmonary disease. The single-breath NO profile (subjects with nose clip) was described as a NO peak followed by a plateau (NO(PLAT)). Published exhaled NO values vary greatly, possibly due to contamination with nasal NO and differing respiratory maneuvers. We developed a technique to measure pulmonary NO, without nasal NO, by having the subject maintain a positive expiratory pressure (ensuring vellum closure), and we

examined the variation in NO(PLAT) over a range of expiratory flows (4.2 to 1,550 ml/s). NO(PLAT) values rose almost 35-fold (3.2 +/- 1.4 ppb to 110.5 +/- 54.8 ppb) with decreasing flow, described by NO(PLAT) = 208.6795 x (flow rate)(-0.5995). However, NO excretion showed an almost 11-fold rise as flow increased. In summary, we present a simple technique for measuring exhaled NO without contamination by nasal NO. There is a marked flow dependence of exhaled NO concentration and excretion. Exhaled pulmonary NO is best measured at very low flow rates to amplify the signal and must be related to the expiratory flow employed.

CT Check Tags: Human; Support, Non-U.S. Gov't
Administration, Inhalation
Adolescence
Adult
***Breath Tests: MT, methods**
Middle Age
Nasal Cavity: ME, metabolism
***Nitric Oxide: AN, analysis**
Nitric Oxide: ME, metabolism
Reproducibility of Results

RN 10102-43-9 (Nitric Oxide)

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=> file medline biosis embase wpids japio
FILE 'MEDLINE' ENTERED AT 16:03:58 ON 11 AUG 1998

FILE 'BIOSIS' ENTERED AT 16:03:58 ON 11 AUG 1998
COPYRIGHT (C) 1998 BIOSIS(R)

FILE 'EMBASE' ENTERED AT 16:03:58 ON 11 AUG 1998
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FILE 'WPIDS' ENTERED AT 16:03:58 ON 11 AUG 1998
COPYRIGHT (C) 1998 DERWENT INFORMATION LTD

FILE 'JAPIO' ENTERED AT 16:03:58 ON 11 AUG 1998
COPYRIGHT (C) 1998 Japanese Patent Office (JPO) and Japan Patent
  Information Organization (Japio)

=> d his full

     (FILE 'HCAPLUS' ENTERED AT 15:36:08 ON 11 AUG 1998)
                DEL HIS
                E DANESHVAR Y/AU
                E SILKOFF P/AU
L1            1 SEA ABB=ON  PLU=ON  "SILKOFF P"/AU
                E MCCLEAN P/AU
L2            4 SEA ABB=ON  PLU=ON  ("MCCLEAN P"/AU OR "MCCLEAN PATRICIA"
                /AU OR "MCCLEAN PATRICIA A"/AU)
                E SLUTSKY A/AU
L3           14 SEA ABB=ON  PLU=ON  ("SLUTSKY A"/AU OR "SLUTSKY A S"/AU
                OR "SLUTSKY ARTHUR"/AU OR "SLUTSKY ARTHUR S"/AU)
                E FURLOTT H/AU
                E HOFFSTEIN E/AU
                E WAKITA S/AU
                E CHAPMAN K/AU
L4           68 SEA ABB=ON  PLU=ON  ("CHAPMAN K"/AU OR "CHAPMAN K R"/AU
                OR "CHAPMAN KENNETH"/AU OR "CHAPMAN KENNETH R"/AU)
                E SZALAI J/AU
L5            7 SEA ABB=ON  PLU=ON  ("SZALAI J"/AU OR "SZALAI JOHN P"/AU
                OR "SZALAI JOHN PAUL"/AU)
                E ZAMEL N/AU
L6            8 SEA ABB=ON  PLU=ON  ("ZAMEL N"/AU OR "ZAMEL NOE"/AU)
L7            0 SEA ABB=ON  PLU=ON  L1 AND L2 AND L3 AND L4 AND L5 AND
                L6
L8           97 SEA ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4 OR L5 OR L6)
L9        16887 SEA ABB=ON  PLU=ON  BREATH?
L10           6 SEA ABB=ON  PLU=ON  L8 AND L9
L11        3453 SEA ABB=ON  PLU=ON  EXHAL?
L12           0 SEA ABB=ON  PLU=ON  L8 AND L11

     FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JAPIO' ENTERED AT 15:55:00 ON
     11 AUG 1998
                E DANESHVAR Y/AU
L13          32 SEA ABB=ON  PLU=ON  "DANESHVAR Y"/AU
L14          32 DUP REM L13 (0 DUPLICATES REMOVED)
L15        1727 SEA ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4 OR L5 OR L6)
L16           1 SEA ABB=ON  PLU=ON  L14 AND L9
L17      173400 SEA ABB=ON  PLU=ON  RESPIRATION
L18           1 SEA ABB=ON  PLU=ON  (L9 OR L17) AND L14
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L19          332 SEA ABB=ON  PLU=ON  (L9 OR L17) AND L15
L20      4642029 SEA ABB=ON  PLU=ON  ANALY?
L21           62 SEA ABB=ON  PLU=ON  L19 AND L20
L22           35 DUP REM L21 (27 DUPLICATES REMOVED)

      FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JAPIO' ENTERED AT 16:03:58 ON
      11 AUG 1998


      FILE MEDLINE
       FILE LAST UPDATED: 31 JUL 1998 (19980731/UP).  FILE COVERS 1966 TO

       THE MEDLINE FILE WAS RELOADED FEBRUARY 15, 1998, TO REFLECT THE ANN
       MESH (MEDICAL SUBJECT HEADING) CHANGES.  ENTER HELP RLOAD FOR DETAI

       THIS FILE CONTAINS CAS REGISTRY NUMBERS FOR EASY AND ACCURATE
       SUBSTANCE IDENTIFICATION.

      FILE BIOSIS
      FILE COVERS 1969 TO DATE.
      CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
      FROM JANUARY 1969 TO DATE.

      RECORDS LAST ADDED: 22 July 1998 (980722/ED)
      CAS REGISTRY NUMBERS (R) LAST ADDED: 22 July 1998 (980722/UP)


      FILE EMBASE
       FILE COVERS 1974 TO 6 Aug 1998 (19980806/ED)

       This file contains CAS Registry Numbers for easy and accurate
       substance identification.

      FILE WPIDS
      FILE LAST UPDATED: 05 AUG 1998              <19980805/UP>
      >>>UPDATE WEEKS:
      MOST RECENT DERWENT WEEK            199831   <199831/DW>
      DERWENT WEEK FOR CHEMICAL CODING:   199826
      DERWENT WEEK FOR POLYMER INDEXING:  199828
     DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE
      >>> D COST AND SET NOTICE DO NOT REFLECT SUBSCRIBER DISCOUNTS -
                                        SEE HELP COST FOR DETAILS <<<
      >>> DELIMITED FORMAT DALL NOW AVAILABLE <<<

      FILE JAPIO
      FILE LAST UPDATED: 29 JUN 1998      <19980629/UP>
      FILE COVERS 1976 TO DATE.

=> d l16 all

L16  ANSWER 1 OF 1  WPIDS   COPYRIGHT 1998 DERWENT INFORMATION LTD
AN   97-469520 [48]   WPIDS
DNN  N97-391749
TI   Facial mask for protection from cold weather - has front body
     portion with transparent zone at eye level and further portions
     extending round side of face with brim member, and vapour barrier
     across bridge of nose.
```

DC P21
IN **DANESHVAR, Y**
PA (DANE-I) DANESHVAR Y
CYC 1
PI US 5666671 A 970916 (9743)* 11 pp A41D013-00
ADT US 5666671 A US 94-350473 941207
PRAI US 94-350473 941207
IC ICM A41D013-00
AB US 5666671 A UPAB: 971030
The mask (81) has a frontal body portion (76) for frontally fully covering a face including forehead, chin, right cheek, and left cheek. The frontal body portion has a transparent zone (78) for allowing a user to see out. The mask body also has further body portions (7,80) that extend posteriorly from the frontal body portion over a frontal portion of a scalp and along sides of a face below the scalp, and that have a posterior edge which lies forwardly of the ears.

A brim member (90) is separably mounted on at least one of these further body portions. A vapor barrier member (83) extends laterally across the inner side of the frontal body portion for passing across the cheeks under the eyes and across the bridge of the nose to seal off the **breathing** area from the eye area.

ADVANTAGE - Prevents direct contact with cold air, moisture, and wind.

Dwg.1/6
FS GMPI
FA AB; GI

=> d l18 all

L18 ANSWER 1 OF 1 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
AN 97-469520 [43] WPIDS
DNN N97-391749
TI Facial mask for protection from cold weather - has front body portion with transparent zone at eye level and further portions extending round side of face with brim member, and vapour barrier across bridge of nose.
DC P21
IN **DANESHVAR, Y**
PA (DANE-I) DANESHVAR Y
CYC 1
PI US 5666671 A 970916 (9743)* 11 pp A41D013-00
ADT US 5666671 A US 94-350473 941207
PRAI US 94-350473 941207
IC ICM A41D013-00
AB US 5666671 A UPAB: 971030
The mask (81) has a frontal body portion (76) for frontally fully covering a face including forehead, chin, right cheek, and left cheek. The frontal body portion has a transparent zone (78) for allowing a user to see out. The mask body also has further body portions (7,80) that extend posteriorly from the frontal body portion over a frontal portion of a scalp and along sides of a face below the scalp, and that have a posterior edge which lies forwardly of the ears.

A brim member (90) is separably mounted on at least one of these further body portions. A vapor barrier member (83) extends laterally across the inner side of the frontal body portion for

passing across the cheeks under the eyes and across the bridge of the nose to seal off the **breathing** area from the eye area.

ADVANTAGE - Prevents direct contact with cold air, moisture, and wind.

Dwg.1/6

FS GMPI

FA AB; GI

=> d l14 tot ti

L14 ANSWER 1 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD

TI Device for injecting fluids into arteries - comprises three members with lumens and a blood flow restrictor comprising an inflatable balloon and a tureen.

L14 ANSWER 2 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD

TI Urinal for patients with difficulties going to bathroom for urination - uses tubing to discharge urine into container in bottom zone that is below imperforate portion of partition.

L14 ANSWER 3 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD

TI Humidifier that humidifies areas during heavy use of heaters - comprises includes base, water basin, enclosure, hydrophilic material, exterior blades and fan.

L14 ANSWER 4 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD

TI Facial mask for protection from cold weather - has front body portion with transparent zone at eye level and further portions extending round side of face with brim member, and vapour barrier across bridge of nose.

L14 ANSWER 5 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD

TI Puncture resistant glove - includes puncture resistant layer including series of shields of puncture resistant material which overlap at joints to protect joint, but allow flexing of joint.

L14 ANSWER 6 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD

TI Bleeding prevention unit for open wounds - includes balloon which is adapted to be placed over wound and has lower surface with adhesive layer which sticks to contiguous skin to hold balloon in placed over wound.

L14 ANSWER 7 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD

TI Automatic pill dispenser - has pivoted pill supply bins moved in succession to station where dispensed by manually operated actuator.

L14 ANSWER 8 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD

TI Easy to operate suction and injection system for use in cardiac catheterisation procedures - has slide valve selectively connecting syringe either to catheter or to fluid source and waste fluid disposal device..

L14 ANSWER 9 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD

TI Clean urinary catheter insertion system - has first tube with distal end for placement toward area surrounding urethra and proximal end

connected to distal end of second tube within which urinary catheter is disposed.

L14 ANSWER 10 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Retractable floor for building - has frame supporting floor sections extending between rails supported on poles with staked ends.

L14 ANSWER 11 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Pressure stocking support for legs for treating Varicose veins, vascular incompetence and like - has elastic wrapping layer with joining member confronting marginal edges having strips which overlap and hook portions.

L14 ANSWER 12 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Device for applying pressure to person's groin - has wrap holding pressure-applying member against groin, with wrap having abdomen-wrap portion extending from frontal portion for encircling abdomen.

L14 ANSWER 13 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Airway securing system for use during cardiopulmonary resuscitation - has piece for opening patients mouth in form of walled tube having intubation passage extending lengthwise and source of illumination.

L14 ANSWER 14 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Clean air vacuum cleaner - has non-permeable upright enclosure, suction fan, collection bag and cover bag which collectively remove minute particles from air.

L14 ANSWER 15 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Urinary catheter and support system - has disconnect feature which causes inserted part to remain in bladder.

L14 ANSWER 16 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Toe protector for supporting blanket in bed - has collapsible construction with various accessories e.g. motorised cradle and thermostat-controlled heater.

L14 ANSWER 17 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Device for preventing post-catheterisation wound bleeding - includes first inflatable balloon for disposition exclusively to one of abdomen-side and thigh side of grain line, and second inflatable balloon for disposition to other of abdomen-side and thigh side of grain line.

L14 ANSWER 18 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Inflatable surgical support - comprises balloon means, soft later and layer of soft plastic bubbles sandwiched between two soft plastic layers, used to prevent bed sores etc..

L14 ANSWER 19 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Humidifier for use in cold weather and use of heaters - has rigid part supporting hydrophilic part with lower portion disposed in water filled canal and upper exposed to air.

L14 ANSWER 20 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Wrap for holding pressure-applicator against person's groin after

cardiac catheterisation - has two inflatable balloons respectively provided on abdomen and thigh sides of groin beneath wrap portions, with buzzer issuing alarm if detected balloon pressure drops.

L14 ANSWER 21 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Assembly to support seated persons head upright - has strap encircling head of user containing inflatable balloons having flat veneer surface and expandable frontal surface.

L14 ANSWER 22 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Pressure bandage for wound application - has balloon to prevent bleeding.

L14 ANSWER 23 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Variable support pad for user of computer keyboard - includes riser between support pad and underlying horizontal surface, with inflatable balloons to set height and angle.

L14 ANSWER 24 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Automatic pill dispenser with timed delivery to collection point - collects and retains pills which are not removed within a set time period.

L14 ANSWER 25 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Pill sample illustrator holding medical and patient information - comprises row of pill holding spaces along one side and aligned bands.

L14 ANSWER 26 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Special cover for endoscope - has distal end that is adapted to be disposed over distal end of shaft, and also includes small hard piece of plastics.

L14 ANSWER 27 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Medicine box for use in dispensing pills - comprises main body defining internal vol. for pill storage box including pill container receiving weekly supply of pills taken on daily basis and lid rendering.

L14 ANSWER 28 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Patient invasive appts. securing wrapper - includes cradle inside invasive unit beneath flap U-turned around bridge member.

L14 ANSWER 29 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Romantic greeting card - has pages joined by line of folding with adhesive zone having strippable sections which protect zones until sticking is required.

L14 ANSWER 30 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Device for suppressing post-catheterisation wound - has wraps which wrap around person's abdomen, and inflation balloon adapted to be disposed between underlying and overlying zones.

L14 ANSWER 31 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Therapeutic nasal inhalator - controls amount of airflow between steam chamber and exterior using multi-aperture disc.

L14 ANSWER 32 OF 32 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
TI Bearer medical information booklet - has pockets to receive sheets of paper and/or glossy areas for adhesive-backed stickers allowing medical information to be efficiently presented.

=> d l22 1-35 all

L22 ANSWER 1 OF 35 MEDLINE
AN 1998285820 MEDLINE
DN 98285820
TI Exhaled nitric oxide in human lung transplantation. A noninvasive marker of acute rejection.
AU Silkoff P E; Caramori M; Tremblay L; **McClean P**; Chaparro C; Kesten S; Hutcheon M; **Slutsky A S**; **Zamel N**; Keshavjee S
CS Department of Respiratory Medicine, and Department of Thoracic Surgery, Faculty of Medicine, University of Toronto, Toronto, Ontario, Canada.
SO AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (1998 Jun) 157 (6 Pt 1) 1822-8.
Journal code: BZS. ISSN: 1073-449X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199809
EW 19980903
AB Acute allograft rejection in animals and humans has been associated with increased nitric oxide production in the graft. Exhaled nitric oxide (ENO) measurement is a noninvasive method of assessing inflammation in airway diseases, e.g., asthma, which might be applicable to lung transplant recipients. Over 12 months, ENO of lower respiratory origin was measured in 108 lung transplant recipients with a mean time after transplant of 1,083 d. ENO (mean +/- SEM; ppb) in stable patients (19.5 +/- 1.1; $p < 0.001$) was not different from that of healthy controls (23.8 +/- 3.2). ENO was significantly higher in episodes of clinical acute rejection (51.1 +/- 6.3) compared with stable patients but not elevated in bronchiolitis obliterans syndrome (18.6 +/- 1.5) or pulmonary infection (25.9 +/- 4.0). A retrospective **analysis** of bronchoscopy findings and concurrent ENO (n = 99) showed that ENO did not vary according to histological findings (normal, acute rejection grade I, nonspecific inflammatory change) or with a positive BAL culture. ENO was not correlated with differential lymphocyte and neutrophil counts. ENO appears to be a valid marker of clinical acute rejection in human lung transplantation as distinct from infection or bronchiolitis obliterans. Furthermore, bronchoscopic findings in the absence of a clinical illness were not associated with a rise in ENO.
CT Check Tags: Female; Human; Male
Adult
Biological Markers: AN, analysis
***Breath Tests**
Bronchiolitis Obliterans: ME, metabolism
Bronchoscopy
*Graft Rejection: DI, diagnosis
Graft Rejection: ME, metabolism

*Lung Transplantation
Middle Age
***Nitric Oxide: AN, analysis**
Nitric Oxide: ME, metabolism
Respiratory Tract Infections: ME, metabolism
RN 10102-43-9 (Nitric Oxide)
CN 0 (Biological Markers)

L22 ANSWER 2 OF 35 MEDLINE
AN 1998112306 MEDLINE
DN 98112306
TI Evaluation of a ventilation strategy to prevent barotrauma in patients at high risk for acute respiratory distress syndrome. Pressure- and Volume-Limited Ventilation Strategy Group.
AU Stewart T E; Meade M O; Cook D J; Granton J T; Hodder R V; Lapinsky S E; Mazer C D; McLean R F; Rogovein T S; Schouten B D; Todd T R; **Slutsky A S**
CS Department of Medicine, University of Toronto, Wellesley Central Hospital, ON, Canada.
SO NEW ENGLAND JOURNAL OF MEDICINE, (1998 Feb 5) 338 (6) 355-61. Journal code: NOW. ISSN: 0028-4793.
CY United States
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199804
EW 19980401
AB BACKGROUND: A strategy of mechanical ventilation that limits airway pressure and tidal volume while permitting hypercapnia has been recommended for patients with the acute respiratory distress syndrome. The goal is to reduce lung injury due to overdistention. However, the efficacy of this approach has not been established. METHODS: Within 24 hours of intubation, patients at high risk for the acute respiratory distress syndrome were randomly assigned to either pressure- and volume-limited ventilation (limited-ventilation group), with the peak inspiratory pressure maintained at 30 cm of water or less and the tidal volume at 8 ml per kilogram of body weight or less, or to conventional ventilation (control group), with the peak inspiratory pressure allowed to rise as high as 50 cm of water and the tidal volume at 10 to 15 ml per kilogram. All other ventilatory variables were similar in the two groups. RESULTS: A total of 120 patients with similar clinical features underwent randomization (60 in each group). The patients in the limited-ventilation and control groups were exposed to different mean (+/-SD) tidal volumes (7.2+/-0.8 vs. 10.8+/-1.0 ml per kilogram, respectively; P<0.001) and peak inspiratory pressures (23.6+/-5.8 vs. 34.0+/-11.0 cm of water, P<0.001). Mortality was 50 percent in the limited-ventilation group and 47 percent in the control group (relative risk, 1.07; 95 percent confidence interval, 0.72 to 1.57; P=0.72). In the limited-ventilation group, permissive hypercapnia (arterial carbon dioxide tension, >50 mm Hg) was more common (52 percent vs. 28 percent, P=0.009), more marked (54.4+/-18.8 vs. 45.7+/-9.8 mm Hg, P=0.002), and more prolonged (146+/-265 vs. 25+/-22 hours, P=0.017) than in the control group. The incidence of barotrauma, the highest multiple-organ-dysfunction

score, and the number of episodes of organ failure were similar in the two groups; however, the numbers of patients who required paralytic agents (23 vs. 13, P=0.05) and dialysis for renal failure (13 vs. 5, P= 0.04) were greater in the limited-ventilation group than in the control group. CONCLUSIONS: In patients at high risk for the acute respiratory distress syndrome, a strategy of mechanical ventilation that limits peak inspiratory pressure and tidal volume does not appear to reduce mortality and may increase morbidity.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Barotrauma: ET, etiology
*Barotrauma: PC, prevention & control
*Hospital Mortality
*Lung: IN, injuries
Middle Age
Multiple Organ Failure: MO, mortality
Positive-Pressure Respiration: AE, adverse effects
***Positive-Pressure Respiration: MT, methods**
Pulmonary Ventilation
Respiratory Distress Syndrome, Adult
Risk Factors
Survival Analysis
Tidal Volume

L22 ANSWER 3 OF 35 MEDLINE
AN 1998127688 MEDLINE
DN 98127688
TI Inhibition of exhaled nitric oxide production during sepsis does not prevent lung inflammation.
AU Aaron S D; Valenza F; Volgyesi G; Mullen J B; **Slutsky A S**; Stewart T E
CS Department of Medicine, University of Ottawa, ON, Canada.
SO CRITICAL CARE MEDICINE, (1998 Feb) 26 (2) 309-14.
Journal code: DTF. ISSN: 0090-3493.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199804
EW 19980404
AB OBJECTIVES: Increases in exhaled nitric oxide have been demonstrated to originate from the lungs of rats after septic lung injury. The aim of this study was to investigate whether treatment with the nitric oxide synthase inhibitor N-nitro-L-arginine methyl ester (L-NAME) would prevent lipopolysaccharide (LPS)-induced increases in exhaled nitric oxide and whether this would have an effect on septic lung inflammation. DESIGN: Prospective, randomized, placebo-controlled animal laboratory investigation. SETTING: University laboratory. SUBJECTS: Male, anesthetized, paralyzed, and mechanically ventilated Sprague-Dawley rats (n = 27). INTERVENTIONS: Rats were mechanically ventilated with air filtered to remove nitric oxide (expiratory rate 40 **breaths**/min, tidal volume 3 mL, positive end-expiratory pressure 0, FIO2 0.21). They were then randomized to receive intravenous injections of either L-NAME (25 mg/kg/hr x 4 hrs) (n = 11) or saline (n = 10). Both groups were again randomized to receive either LPS (Salmonella typhosa: 20 mg/kg i.v. x 1 dose) or an equal volume of saline 5 mins later. Thereafter, exhaled gas was collected in polyethylene bags for

measurements of nitric oxide concentration. After 4 hrs, the rats were killed and the lungs were preserved and examined histologically. To examine the effect of L-NAME and LPS on mean arterial blood pressure, six additional rats underwent the same ventilation protocol with cannulation of the right internal carotid artery so that systemic arterial pressures could be measured. MEASUREMENTS AND MAIN RESULTS: Exhaled gas was collected and measurements of NO concentrations were made using chemiluminescence every 20 mins for 240 mins during ventilation. A total lung injury score was calculated by determining the extent of cellular infiltrate, exudate and hemorrhage. Mean arterial pressure was recorded every 5 mins for 20 mins and then at 20-min periods for 120 mins. Exhaled nitric oxide concentrations increased in all the LPS-treated rats that did not receive L-NAME by 120 mins; a plateau was reached by 190 mins that was approximately 4 times greater than control rats not treated with LPS ($p < .001$). In contrast, rats treated with L-NAME and LPS did not show an increase in exhaled NO. Administration of L-NAME induced a 10-min nonsustained increase in mean arterial pressure in two rats treated with L-NAME followed by LPS. This increase in mean arterial pressure was not seen in two placebo and two LPS-treated rats that did not receive L-NAME. Lung inflammation was significantly worse in the two groups of rats which received LPS compared with the two that did not. L-NAME did not cause lung inflammation in rats that did not receive LPS; however, LPS-treated rats that received L-NAME had more inflammatory interstitial infiltrate ($p < .05$) and a trend toward worse lung injury than did LPS-treated rats that did not receive L-NAME. CONCLUSION: We conclude that L-NAME can inhibit the increase in exhaled NO from the lungs of septic rats, but that this inhibition does not reduce lung inflammation, and may worsen it.

CT Check Tags: Animal; Comparative Study; Male; Support, Non-U.S. Gov't
Analysis of Variance
Breath Tests: MT, methods
Drug Screening
Enzyme Inhibitors: TU, therapeutic use
Lipopolysaccharides: PD, pharmacology
Lung: DE, drug effects
Lung: PA, pathology
Lung Diseases, Interstitial: ET, etiology
Lung Diseases, Interstitial: PA, pathology
*Lung Diseases, Interstitial: PC, prevention & control
*Nitric Oxide: AI, antagonists & inhibitors
Nitric Oxide: AN, analysis
Nitric-Oxide Synthase: AI, antagonists & inhibitors
NG-Nitroarginine Methyl Ester: TU, therapeutic use
Prospective Studies
Random Allocation
Rats
Rats, Sprague-Dawley
Salmonella typhi
*Sepsis: CO, complications
Sepsis: ME, metabolism

RN 10102-43-9 (Nitric Oxide); 50903-99-6 (NG-Nitroarginine Methyl Ester)

CN EC 1.14.13.39 (Nitric-Oxide Synthase); 0 (Enzyme Inhibitors); 0 (Lipopolysaccharides)

L22 ANSWER 4 OF 35 MEDLINE DUPLICATE 1
AN 1998105329 MEDLINE
DN 98105329
TI Bile salt-stimulated lipase and digestion of non-breast milk fat.
AU **McClean P**; Harding M; Coward W A; Prentice A; Austin S; Weaver L T
CS M. R. C. Dunn Nutrition Unit, Cambridge, United Kingdom.
SO JOURNAL OF PEDIATRIC GASTROENTEROLOGY AND NUTRITION, (1998 Jan) 26 (1) 39-42.
Journal code: JL6. ISSN: 0277-2116.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199804
EW 19980403
AB BACKGROUND: 13 Carbon (13C)-lipid **breath** tests are an effective, noninvasive way of repeatedly measuring fat digestion. The purpose of this study was to assess the contribution of bile salt-stimulated lipase (BSSL) in human milk to the digestion of non-breast-milk fat in Gambian infants. METHODS: Twelve Gambian infants (aged 3-8 months) were studied on 4 days. 13C-Trioctanoin (7.5 mg/kg, digested by BSSL preduodenal and pancreatic lipases) and 13C-cholesteryl octanoate (25 mg/kg, digested by BSSL and pancreatic lipases) were used as substrates. The percentage dose recovery (PDR) of 13C in **breath** during 5 hours was compared after ingestion of each substrate with fresh, expressed breast milk (FBM) or heated, expressed breast milk (HBM). Gas isotope ratio-mass spectrometry was used to measure 13C enrichment, and breast milk samples were **analysed** for esterase activity. RESULTS: Heating breast milk significantly decreased esterase activity (mean +/- SD values: FBM = 12.2 +/- 2.9 IU/ml; HBM = 0.5 +/- 0.3 IU/ml), and there was no difference in the volumes of milk ingested on each test day (approximately 50 ml). The PDR of 13C was comparable to that previously described in healthy English infants and was not increased by BSSL. The mean +/- SD PDR of 13C from trioctanoin was 36.3 +/- 8.4% for FBM and 34.6 +/- 6.3% for HBM (NS). From cholesteryl octanoate, the mean +/- SD PDR of 13C was 24.3 +/- 8.7% for FBM and 27.1 +/- 7.5% for HBM (NS). CONCLUSIONS: Bile salt-stimulated lipase may enhance fat digestion in younger or malnourished infants who have a greater degree of pancreatic enzyme deficiency. However, this study suggests that it does not increase the digestion of non-breast-milk fat in healthy, well-nourished infants aged 3 to 8 months from an underprivileged background, who typically ingest frequent small quantities of breast milk.
CT Check Tags: Human; Support, Non-U.S. Gov't
Carbon Isotopes
*Cholesterol Esterase: ME, metabolism
Cholesterol Esters: ME, metabolism
*Dietary Fats: ME, metabolism
*Digestion
Gambia
Heat
Infant
*Milk, Human: EN, enzymology
Octanoic Acids: ME, metabolism
Triglycerides: ME, metabolism

RN 1182-42-9 (cholesteryl octanoate); 538-23-8 (tricaprylin)
CN EC 3.1.1.- (bile salt-stimulated lipase); EC 3.1.1.13 (Cholesterol Esterase); 0 (Carbon Isotopes); 0 (Cholesterol Esters); 0 (Dietary Fats); 0 (Octanoic Acids); 0 (Triglycerides)

L22 ANSWER 5 OF 35 MEDLINE DUPLICATE 2
AN 97216062 MEDLINE
DN 97216062
TI Injurious ventilatory strategies increase cytokines and c-fos m-RNA expression in an isolated rat lung model.
AU Tremblay L; Valenza F; Ribeiro S P; Li J; **Slutsky A S**
CS Division of General Surgery, The Toronto Hospital, Canada.
SO JOURNAL OF CLINICAL INVESTIGATION, (1997 Mar 1) 99 (5) 944-52. Journal code: HS7. ISSN: 0021-9738.
CY United States
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199706
EW 19970602
AB We examined the effect of ventilation strategy on lung inflammatory mediators in the presence and absence of a preexisting inflammatory stimulus. 55 Sprague-Dawley rats were randomized to either intravenous saline or lipopolysaccharide (LPS). After 50 min of spontaneous **respiration**, the lungs were excised and randomized to 2 h of ventilation with one of four strategies: (a) control (C), tidal volume (Vt) = 7 cc/kg, positive end expiratory pressure (PEEP) = 3 cm H2O; (b) moderate volume, high PEEP (MVHP), Vt = 15 cc/kg; PEEP = 10 cm H2O; (c) moderate volume, zero PEEP (MVZP), Vt = 15 cc/kg, PEEP = 0; or (d) high volume, zero PEEP (HVZP), Vt = 40 cc/kg, PEEP = 0. Ventilation with zero PEEP (MVZP, HVZP) resulted in significant reductions in lung compliance. Lung lavage levels of TNFalpha, IL-1beta, IL-6, IL-10, MIP-2, and IFNgamma were measured by ELISA. Zero PEEP in combination with high volume ventilation (HVZP) had a synergistic effect on cytokine levels (e.g., 56-fold increase of TNFalpha versus controls). Identical end inspiratory lung distention with PEEP (MVHP) resulted in only a three-fold increase in TNFalpha, whereas MVZP produced a six-fold increase in lavage TNFalpha. Northern blot **analysis** revealed a similar pattern (C, MVHP < MVZP < HVZP) for induction of c-fos mRNA. These data support the concept that mechanical ventilation can have a significant influence on the inflammatory/anti-inflammatory milieu of the lung, and thus may play a role in initiating or propagating a local, and possibly systemic inflammatory response.
CT Check Tags: Animal; Male; Support, Non-U.S. Gov't
Blotting, Northern
Bronchoalveolar Lavage Fluid: CH, chemistry
Enzyme-Linked Immunosorbent Assay
Genes, fos
Inflammation: IM, immunology
Interferon Type II: AN, analysis
Interferon Type II: IM, immunology
Interleukin-1: AN, analysis
Interleukin-1: IM, immunology
Interleukin-10: AN, analysis

Interleukin-10: IM, immunology
Interleukin-6: AN, analysis
Interleukin-6: IM, immunology
Lipopolysaccharides: PD, pharmacology
*Lung: IM, immunology
*Lung: PA, pathology
Lung Compliance
Macrophage Inflammatory Protein-1: AN, analysis
Macrophage Inflammatory Protein-1: IM, immunology
***Positive-Pressure Respiration: AE, adverse effects**
Positive-Pressure Respiration: MT, methods
Proteins: AN, analysis
Rats
Rats, Sprague-Dawley
RNA, Messenger: AN, analysis
Tumor Necrosis Factor: AN, analysis
Tumor Necrosis Factor: IM, immunology
RN 130068-27-8 (Interleukin-10); 82115-62-6 (Interferon Type II)
CN 0 (Interleukin-1); 0 (Interleukin-6); 0 (Lipopolysaccharides); 0 (Macrophage Inflammatory Protein-1); 0 (Proteins); 0 (RNA, Messenger); 0 (Tumor Necrosis Factor)

L22 ANSWER 6 OF 35 MEDLINE
AN 97154604 MEDLINE
DN 97154604
TI Marked flow-dependence of exhaled nitric oxide using a new technique to exclude nasal nitric oxide.
AU Silkoff P E; McClean P A; **Slutsky A S**; Furlott H G; Hoffstein E; Wakita S; **Chapman K R**; Szalai J P; **Zamel N**
CS Department of Medicine, the University of Toronto, Ontario, Canada.
SO AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (1997 Jan) 155 (1) 260-7.
Journal code: BZS. ISSN: 1073-449X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199704
EW 19970403
AB Exhaled nitric oxide (NO) may aid in monitoring pulmonary disease. The single-**breath** NO profile (subjects with nose clip) was described as a NO peak followed by a plateau (NO(PLAT)). Published exhaled NO values vary greatly, possibly due to contamination with nasal NO and differing respiratory maneuvers. We developed a technique to measure pulmonary NO, without nasal NO, by having the subject maintain a positive expiratory pressure (ensuring vellum closure), and we examined the variation in NO(PLAT) over a range of expiratory flows (4.2 to 1,550 ml/s). NO(PLAT) values rose almost 35-fold (3.2 +/- 1.4 ppb to 110.5 +/- 54.8 ppb) with decreasing flow, described by NO(PLAT) = 208.6795 x (flow rate)(-0.5995). However, NO excretion showed an almost 11-fold rise as flow increased. In summary, we present a simple technique for measuring exhaled NO without contamination by nasal NO. There is a marked flow dependence of exhaled NO concentration and excretion. Exhaled pulmonary NO is best measured at very low flow rates to amplify the signal and must be related to the expiratory flow employed.

CT Check Tags: Human; Support, Non-U.S. Gov't
Administration, Inhalation
Adolescence
Adult
***Breath Tests: MT, methods**
Middle Age
Nasal Cavity: ME, metabolism
***Nitric Oxide: AN, analysis**
Nitric Oxide: ME, metabolism
Reproducibility of Results
RN 10102-43-9 (Nitric Oxide)

L22 ANSWER 7 OF 35 MEDLINE DUPLICATE 3
AN 96279780 MEDLINE
DN 96279780
TI Asthma on Tristan da Cunha: looking for the genetic link. The University of Toronto Genetics of Asthma Research Group.
AU **Zamel N**; McClean P A; Sandell P R; Siminovitch K A; **Slutsky A S**
CS Department of Medicine, University of Toronto, Ontario, Canada.
SO AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (1996 Jun) 153 (6 Pt 1) 1902-6.
Journal code: BZS. ISSN: 1073-449X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199610
AB Although asthma has a significant heritable component, the mode of inheritance remains controversial because of the complexity of the disease and the influence of environmental factors. Isolated, inbred populations serve to reduce variability, thus increasing the probability of gene localization. We studied the inbred population of the remote island of Tristan da Cunha to document asthma prevalence for the purpose of genetic linkage **analysis**. Medical histories and skin atopy were determined on 282 islanders, representing 97% of the population, and airway responsiveness was measured in 254; 226 by methacholine challenge (tidal **breathing** method) and 28 by bronchodilator response (400 micrograms salbutamol aerosol). Blood samples were collected from 275 islanders. Participants ranged in age from 3 to 94 yr. Asthma was defined as increased airway responsiveness (AR+: PC20 < 4 mg/ml or > or = 15% increase in FEV1 postbronchodilator) combined with a positive history (Hx+). Fifty-seven percent of the islanders had at least partial evidence of asthma (Hx+ and/or AR+) and 23% had a definitive diagnosis of asthma (AR+ with Hx+). Overall 47% of the population were atopic, atopy was proportionally higher in asthmatics (74%) than nonasthmatics (32%; $p < 0.01$). **Analysis** of the methacholine dose-response curves demonstrated that asthmatics were significantly ($p < 0.01$) more responsive than those with AR+ only, and nonasthmatics (AR-, Hx-) were more responsive than laboratory control subjects ($p < 0.05$), suggesting that these islanders may also carry an airway hyperresponsiveness gene. A frequency plot of the percent fall in FEV1 for all Hx- subjects compared with control data suggests a bimodal distribution consistent with a major gene mechanism for airway responsiveness. Genealogy mapping revealed that the islanders

are direct descendants of the 15 original settlers, and historical records suggest at least two founders may have been asthmatic. The data confirm previous reports of a high asthma prevalence on Tristan and support the postulate that this prevalence is a result of gene enrichment occurring in isolated populations by virtue of extensive inbreeding and a probable founder effect.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Adolescence
Adult
Age Distribution
Aged
Aged, 80 and over
Allergens: DU, diagnostic use
Asthma: EP, epidemiology
*Asthma: GE, genetics
Atlantic Ocean
Bronchoconstrictor Agents: DU, diagnostic use
Child
Child, Preschool
Consanguinity
Forced Expiratory Volume
Founder Effect
Linkage (Genetics)
Methacholine Chloride: DU, diagnostic use
Middle Age
Prevalence
Sex Distribution
Skin Tests

RN 55-92-5 (Methacholine Chloride)
CN 0 (Allergens); 0 (Bronchoconstrictor Agents)

L22 ANSWER 8 OF 35 MEDLINE DUPLICATE 4
AN 96326003 MEDLINE
DN 96326003
TI Tracheobronchial constriction in asthmatics induced by isocapnic hyperventilation with dry cold air.
AU Juli`a-Serd`a G; Molfino N A; Califaretti N; Hoffstein V; **Zamel N**
CS Department of Medicine, University of Toronto, Ontario, Canada.
SO CHEST, (1996 Aug) 110 (2) 404-10.
Journal code: D1C. ISSN: 0012-3692.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199611
AB Although it is well known that isocapnic hyperventilation (IHV) with dry cold air produces airway constriction in asthmatic subjects, the site of airway narrowing is nuclear. To address this issue, we have quantified the tracheal and bronchial response to IHV with dry cold air in 15 patients with mild asthma and 7 healthy control subjects. We employed the acoustic reflection technique to evaluate changes in airway cross-sectional areas caused by IHV with dry cold air. Airway areas were measured during tidal **breathing** before and 5 to 10, 30, 60, and 90 min following cold air challenge. For **analysis** purposes, airway areas were divided into three anatomic segments: extrathoracic tracheal segment, intrathoracic

tracheal segment, and main bronchial segment. These segments were assessed at a fixed volume below total lung capacity. Maximal and partial expiratory flow-volume curves were also obtained before each set of area measurements. In normal subjects, IHV with dry cold air caused no significant changes in FEV1, flow at 30% of the vital capacity in the partial curve (V30p), or airway areas. In asthmatics, at 5 to 10 min after challenge, we found that FEV1 decreased by 22 +/- 5% (mean +/- SEM) ($p < 0.0001$), V30p by 33 +/- 8% ($p < 0.003$), intrathoracic tracheal area by 10.7% +/- 2% ($p < 0.03$), and main bronchial area by 14 +/- 3% ($p < 0.003$). At 30 min, tracheal and main bronchial areas were returned to baseline levels; however, FEV1 and V30p were still significantly decreased, by 13 +/- 3% and 16 +/- 4%, respectively. We conclude that in asthmatics, IHV with dry cold air causes both tracheal and bronchial constriction, and that recovery seems to occur first in the central airways.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Acoustics
Adult
*Asthma: PP, physiopathology
*Bronchoconstriction
Carbon Dioxide: PH, physiology
*Cold
Constriction, Pathologic
Forced Expiratory Volume
*Hyperventilation
Maximal Expiratory Flow Rate
Peak Expiratory Flow Rate
Total Lung Capacity
*Trachea: PP, physiopathology
Vital Capacity

RN 124-38-9 (Carbon Dioxide)

L22 ANSWER 9 OF 35 MEDLINE
AN 97022821 MEDLINE
DN 97022821
TI Stable isotope studies of pancreatic enzyme release in vivo.
AU Seal S; **McClean P**; Walters M; Wolfe S P; Harding M; Coward W; Littlewood J M
CS Regional Paediatric Cystic Fibrosis Unit, St James' University Hospital, Leeds, UK.
SO POSTGRADUATE MEDICAL JOURNAL, (1996 Mar) 72 Suppl 2 S37-8. Journal code: PFX. ISSN: 0032-5473.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199702
EW 19970204
CT Check Tags: Comparative Study; Female; Human; Male
Breath Tests
Carbon Isotopes
Child
Colon: ME, metabolism
*Cystic Fibrosis: ME, metabolism
Cystic Fibrosis: TH, therapy
*Gastrointestinal Transit
Hydrogen: AN, analysis

*Ileum: ME, metabolism
*Lipase: DU, diagnostic use
Lipolysis
*Pancreatic Extracts: DU, diagnostic use
*Pancreatin: ME, metabolism
RN 1333-74-0 (Hydrogen); 53608-75-6 (pancrelipase); 8049-47-6 (Pancreatin)
CN EC 3.1.1.3 (Lipase); 0 (Carbon Isotopes); 0 (Pancreatic Extracts)

L22 ANSWER 10 OF 35 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 96096489 EMBASE
TI Stable isotope studies of pancreatic enzyme release in vivo.
AU Seal S.; **McClean P.**; Walters M.; Wolfe S.P.; Harding M.; Coward W.; Littlewood J.M.
CS Reg. Paediatric Cystic Fibrosis Unit, St James' University Hospital, Leeds, United Kingdom
SO Postgraduate Medical Journal, (1996) 72/SUPPL. 2 (S37-S38). ISSN: 0032-5473 CODEN: PGMJAO
CY United Kingdom
DT Journal
FS 006 Internal Medicine
007 Pediatrics and Pediatric Surgery
030 Pharmacology
048 Gastroenterology
037 Drug Literature Index
LA English
CT EMTAGS: congenital disorder (0315); pharmacokinetics (0194); diagnosis (0140); digestive system (0935); mammal (0738); human (0888); male (0041); female (0042); clinical article (0152); controlled study (0197); school child (0016); child (0022); oral drug administration (0181); conference paper (0061); enzyme (0990)
Medical Descriptors:
*cystic fibrosis: CN, congenital disorder
drug release
breath analysis
lipolysis
enzyme activity
gastrointestinal tract
human
male
female
clinical article
controlled study
school child
oral drug administration
conference paper
Drug Descriptors:
*pancreas enzyme: DO, drug dose
*pancreas enzyme: PK, pharmacokinetics
stable isotope
kreon: DO, drug dose
kreon: PK, pharmacokinetics
pancrelipase: DO, drug dose
pancrelipase: PK, pharmacokinetics
RN (pancrelipase) 83869-36-7
CN Creon; Pancrease

L22 ANSWER 11 OF 35 MEDLINE
AN 95187422 MEDLINE
DN 95187422
TI Increased nitric oxide in exhaled gas as an early marker of lung inflammation in a model of sepsis.
AU Stewart T E; Valenza F; Ribeiro S P; Wener A D; Volgyesi G; Mullen J B; **Slutsky A S**
CS Department of Medicine, Samuel Lunenfeld Research Institute Mount Sinai Hospital, Toronto, Ontario, Canada..
SO AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (1995 Mar) 151 (3 Pt 1) 713-8.
Journal code: BZS. ISSN: 1073-449X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199506
AB Nitric Oxide (NO) has been implicated in the pathologic vasodilation of sepsis. Because NO can be measured in the exhaled gas of animals and humans, we hypothesized that increases in exhaled NO would occur in a septic model. Using a blinded design, 10 male Sprague-Dawley rats (300 to 400 g) were anesthetized, paralyzed, tracheotomized, and randomized (5/group) to receive an intravenous injection of either lipopolysaccharide (LPS) (Salmonella typhosa, 20 mg/kg) or placebo (equal volume of saline). Thereafter, exhaled gas was collected and measurements of NO concentration were made using chemiluminescence every 20 min for 300 min during ventilation (RR 40 **breaths**/min, VT 3 ml; PEEP 0, FIO2 0.21). Another group of 10 animals (5 LPS; 5 control) were treated in the same fashion and then killed at 240 min and an arterial blood sample obtained for blood gas and TNF alpha determinations. Pressure volume (PV) curves were constructed and lungs removed, preserved, and submitted for histologic evaluation. LPS-treated rats had lower mean arterial pressures than the control group, $p < 0.0001$. No significant differences in static lung compliance and PV curves were found in the two groups. TNF alpha levels were greater in the LPS group (1.40 +/- 0.24 ng/ml) versus control group (0.09 +/- 0.04 ng/ml), $p < 0.001$. By contrast to the control group, exhaled NO concentration rose in all LPS-treated rats at approximately 100 min and at about 160 min reached a plateau that was 6 times greater than control levels ($p < 0.0001$). There was greater interstitial, airspace, and total lung injury in the LPS group ($p = 0.01$).(ABSTRACT TRUNCATED AT 250 WORDS)
CT Check Tags: Animal; Comparative Study; Male; Support, Non-U.S. Gov't
Amino Acid Oxidoreductases: ME, metabolism
Biological Markers: AN, analysis
Carbon Dioxide: BL, blood
Chemiluminescence
Double-Blind Method
Lipopolysaccharides
Lung: ME, metabolism
*Lung: PA, pathology
***Nitric Oxide: AN, analysis**
Nitric Oxide: ME, metabolism
NADPH Dehydrogenase: ME, metabolism
Oxygen: BL, blood
Random Allocation

Rats
Rats, Sprague-Dawley
Respiration, Artificial
Salmonella typhi
Sepsis Syndrome: ET, etiology
*Sepsis Syndrome: ME, metabolism
Tumor Necrosis Factor: AN, analysis

RN 10102-43-9 (Nitric Oxide); 124-38-9 (Carbon Dioxide); 7782-44-7 (Oxygen)
CN EC 1.14.13.39 (Nitric-Oxide Synthase); EC 1.4. (Amino Acid Oxidoreductases); EC 1.6.99.1 (NADPH Dehydrogenase); 0 (Biological Markers); 0 (Lipopolysaccharides); 0 (Tumor Necrosis Factor)

L22 ANSWER 12 OF 35 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 94031915 EMBASE
TI Medical personnel's knowledge of and ability to use inhaling devices: Metered-dose inhalers, spacing chambers, and **breath**-actuated dry powder inhalers.
AU Hanania N.A.; Wittman R.; Kesten S.; **Chapman K.R.**
CS 4-011 ECW, 399 Bathurst Street, Toronto, Ont. M5T 2S8, Canada
SO CHEST, (1994) 105/1 (111-116).
ISSN: 0012-3692 CODEN: CHETBF
CY United States
DT Journal
FS 015 Chest Diseases, Thoracic Surgery and Tuberculosis
037 Drug Literature Index
LA English
SL English
AB Background: Current treatment strategies for asthma and chronic obstructive pulmonary disease (COPD) emphasize the inhalation route, yet patients often misuse metered-dose inhalers (MDI). To address this problem, patient education by medical personnel has been recommended and a variety of alternate inhaler devices have been developed. Methods: We surveyed medical personnel to assess their knowledge of and ability to use three widely used inhaler devices; MDI, MDI with a spacing chamber (Aerochamber, Trudell Medical, Canada), and a **breath**-actuated multidose dry powder inhaler (Turbuhaler, Astra Pharmacy, Inc., Canada). Thirty respiratory therapists (RT), 30 registered nurses (RN), and 30 medical house staff physicians (MD) were asked to demonstrate the use of each device using placebo inhalers and to answer 11 clinically relevant questions related to the use and maintenance of the tested devices. Results: The RT's percent mean knowledge score (67 .+-. 5 percent) was significantly higher than those achieved by either the RNs (39 .+-. 7 percent) or the MDs (48 .+-. 7 percent) (for all $p < 0.0001$). Similarly, percent mean demonstration scores for each device were significantly higher for RTs than either RN or MD groups; for MDI, 97 .+-. 3 percent versus 82 .+-. 13 percent and 69 .+-. 24 percent, respectively ($p < 0.0001$); for the Aerochamber, 98 .+-. 2 percent versus 78 .+-. 20 percent and 57 .+-. 31 percent ($p < 0.0001$); and for the Turbuhaler, 60 .+-. 30 percent versus 12 .+-. 23 percent and 21 .+-. 30 percent ($p < 0.0001$). Knowledge of and practical skills with the devices were roughly proportional to the length of time the device had been in clinical use, Turbuhaler demonstration scores being lower than either MDI or Aerochamber scores ($p = 0.05$ and $p = 0.09$, respectively). More RTs (77 percent) had received formal instruction on the use of devices at school than

either RNs (30 percent) or MDs (43 percent) ($p < 0.05$). Conclusion: We conclude that (1) many medical personnel responsible for monitoring and instructing patients in optimal inhaler use lack rudimentary skills with these devices, (2) nurses and physicians seldom receive formal training in the use of inhaling devices, and (3) newer inhaling devices designed to obviate problems of technique are at present less likely to be used well by medical personnel soon after their introduction.

CT EMTAGS: education (0143); organization and management (0142); therapy (0160); automation, computers and data processing (0530); mammal (0738); human (0888); human experiment (0104); normal human (0800); priority journal (0007); article (0060)
Medical Descriptors:
*medical personnel
*patient information
*inhalation
*attitude
*skill
patient education
staff training
medical education
patient care
follow up
ventilator
patient monitoring
nurse patient relationship
doctor patient relation
data analysis
human
human experiment
normal human
priority journal
article
Drug Descriptors:
*drug delivery system: AD, drug administration
*aerosol: AD, drug administration
terbutaline
RN 23031-25-6
CN (1) Turbuhaler
CO (1) Astra (Canada); Trudell (Canada)

L22 ANSWER 13 OF 35 MEDLINE DUPLICATE 5
AN 94110153 MEDLINE
DN 94110153
TI Tracheobronchial dilation during isocapnic hypoxia in conscious humans.
AU Juli`a-Serd`a G; Molfino N A; Furlott H G; McClean P A; Rebuck A S; Hoffstein V; **Slutsky A S; Zamel N; Chapman K R**
CS Department of Medicine, University of Toronto, Ontario, Canada..
SO JOURNAL OF APPLIED PHYSIOLOGY, (1993 Oct) 75 (4) 1728-33.
Journal code: HEG. ISSN: 8750-7587.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199404

AB To assess the effects of isocapnic hypoxia on the pharynx, glottis, extrathoracic trachea (ET), intrathoracic trachea (IT), and main bronchi (MB), we measured the cross-sectional areas of these airways by acoustic reflection technique in 15 healthy volunteers. Measurements were made during tidal volume **breathing** while subjects were normoxic [arterial O2 saturation (SaO2) > 95%] or were made hypoxic by a rebreathing procedure. Under hypoxemic conditions, airway cross-sectional areas increased significantly at ET, IT, and MB levels ($P < 0.001$). The magnitude of this dilation was similar for both levels of hypoxemia studied (SaO2 80-85% and 70-75%); at the milder of the two hypoxemic conditions, ET cross-sectional area increased by 12.4 +/- 4.2% (SE), IT by 10.2 +/- 5.9%, and MB by 19.1 +/- 3.2%. No significant changes were found in the pharyngeal or glottic areas. Dilation was not produced by normoxic isocapnic hyperventilation, and the use of hypoxic airway gas mixtures did not artifactually alter acoustic reflection measurements in a mechanical model. Vagal airway tone, as reflected by airway constriction during pauses in tidal **breathing**, was unaffected by isocapnic hypoxia. We conclude that isocapnic hypoxia produces dilation of the trachea and major bronchi, an effect unaccounted for by an alteration in the ventilatory pattern.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Adult
*Anoxia: PP, physiopathology
Asthma: PP, physiopathology
Blood Gas Analysis
*Bronchi: PP, physiopathology
Carbon Dioxide: BL, blood
Hyperventilation: PP, physiopathology
Models, Anatomic
Muscle Tonus: PH, physiology
Oxygen: BL, blood
Respiratory Function Tests
Sleep Apnea Syndromes: PP, physiopathology
*Trachea: PP, physiopathology

RN 124-38-9 (Carbon Dioxide); 7782-44-7 (Oxygen)

L22 ANSWER 14 OF 35 MEDLINE DUPLICATE 6
AN 94171257 MEDLINE
DN 94171257
TI On-line determination of pulmonary blood flow using respiratory inert gas **analysis**.
AU Gan K; Nishi I; Chin I; **Slutsky A S**
CS Department of Medicine, Mount Sinai Hospital, University of Toronto, Canada..
SO IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING, (1993 Dec) 40 (12) 1250-9.
Journal code: GFX. ISSN: 0018-9294.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
EM 199406
AB An inert gas **analysis** method has been developed to perform on-line real time determination of pulmonary blood flow using a nonrebreathing approach. This technique is based on a mathematical model describing mass balance of two inert gases which are **breathed** using an open gas circuit. The measurements using

this method are noninvasive, easy to peform, and do not disturb normal physiological processes. As well, since data are collected on a **breath**-by-**breath** basis, it is possible to estimate other respiratory, cardiopulmonary, and metabolic parameters simultaneously in a **breath**-by-**breath** manner. Special consideration was given to developing effective data processing algorithms to minimize the influence of measurement noise and respiratory variations. Experimental studies to compare this method with other accepted techniques were conducted to validate the present technique.

CT Check Tags: Animal; Comparative Study; Female; Human; Male; Support, Non-U.S. Gov't
Acetylene: DU, diagnostic use
Algorithms
Blood Flow Velocity
Cardiac Output
Dogs
Linear Models
Models, Biological
*Online Systems
Online Systems: SN, statistics & numerical data
*Pulmonary Circulation
*Pulmonary Gas Exchange
Respiratory Dead Space
*Respiratory Function Tests: MT, methods
Respiratory Function Tests: SN, statistics & numerical data
Sensitivity and Specificity
Thermodilution

RN 74-86-2 (Acetylene)

L22 ANSWER 15 OF 35 BIOSIS COPYRIGHT 1998 BIOSIS DUPLICATE 7
AN 93:589302 BIOSIS
DN 97008672
TI Measurement of fat digestion in early life using a stable isotope **breath** test.
AU **McClean P**; Harding M; Coward W A; Green M R; Weaver L T
CS Dep. Paediatrics and Child Health, St. James's University Hosp., Beckett St., Leeds LS9 7TF, UK
SO Archives of Disease in Childhood 69 (3). 1993. 366-370. ISSN: 0003-9888
LA English
AB 13C **breath** tests are a safe, non-invasive way of assessing nutrient digestion and absorption that can be used repeatedly in infancy and childhood. The aim of this study was to assess their value for measuring fat digestion in infants and young children with cystic fibrosis, and healthy controls whose pancreatic exocrine function is immature, and to monitor pancreatic enzyme supplementation. Six infants with cystic fibrosis (aged 10-18 months) and nine healthy controls (aged 6-19 months) were studied. After an overnight fast each child ingested 7.5 mg/kg 13C trioctanoin (99 atom % excess) followed by a known volume of milk. **Breath** samples were collected before and at 30 minute intervals thereafter for five hours. The 13C enrichment of expired carbon dioxide was measured by gas isotope ratio mass spectrometry. The mean (SD) percentage dose recovery of 13C was 13.5 (5.3) for the cystic fibrosis group and 24.2 (6.7) for the healthy controls. When those with cystic fibrosis were studied after supplementary pancreatic

enzymes, the mean percentage dose recovery rose to 17.1 (6.9). Total intraluminal lipolysis was diminished by 44% in young children with cystic fibrosis. Pancreatic enzyme supplements improved digestion by 27%. The 13C trioctanoin **breath** test was effective in detecting fat maldigestion and can be used to measure the benefits of enzyme supplements in early life.

ST RESEARCH ARTICLE; CLINICAL TRIAL; HUMAN; CARBON-13 TRIOCTANOIN; **ANALYTICAL** METHOD; DIAGNOSTIC POTENTIAL; NUTRIENT MALABSORPTION

CC Biochemical Studies-Lipids 10066
Biophysics-General Biophysical Techniques *10504
Pathology, General and Miscellaneous-Diagnostic *12504
Metabolism-Metabolic Disorders *13020
Nutrition-General Studies, Nutritional Status and Methods *13202
Nutrition-Lipids *13222
Digestive System-Physiology and Biochemistry *14004
Respiratory System-General; Methods *16001
Pediatrics *25000

BC Hominidae 86215

L22 ANSWER 16 OF 35 MEDLINE DUPLICATE 8
AN 91209048 MEDLINE
DN 91209048
TI Response characteristics of a dual transcutaneous oxygen/carbon dioxide monitoring system.
AU Kesten S; **Chapman K R**; Rebuck A S
CS Division of Respiratory Medicine, Toronto Western Hospital, Ontario, Canada..
SO CHEST, (1991 May) 99 (5) 1211-5.
Journal code: D1C. ISSN: 0012-3692.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199108
AB We tested the response characteristics of a dual transcutaneous (tc) PO2/PCO2 monitoring system in healthy subjects who **breathed** various gas mixtures, and we compared steady-state tc readings to simultaneous arterial blood gas **analysis** in 20 stable respiratory outpatients. The electrodes were simple to apply, required very little skin preparation, and had trivial signal drift. In healthy subjects, tcPCO2 lag time during CO2 rebreathing was 16.8 seconds, with a 90 percent response time of 77.9 seconds after CO2 **breathing** was discontinued. The 90 percent response times of the O2 electrode when subjects **breathed** a hypoxic mixture was 257 seconds after a lag of 31 seconds. When inhaled gas mixtures were changed from hypoxia to room air, the lag time was shorter (12.5 seconds), but 90 percent response time exceeded 5 minutes. In stable patients with respiratory disease, tcPCO2 and tcPO2 were linearly related to PaCO2 (range, 19 to 53 mm Hg) and PaO2 (range, 45 to 99 mm Hg), respectively (tcPCO2 = 1.4 PaCO2-9.44, with r = 0.90 and SEE = 5.35 mm Hg; tcPO2 = 0.56 PaO2 + 20.4, with r = 0.53 and SEE = 11.7 mm Hg). We conclude that the response of the dual transcutaneous monitoring system is more rapid for the CO2 than the O2 electrode and may be rapid enough to be useful in some clinical settings; however, the O2 system fails to offer the response characteristics and accuracy that would allow it to be substituted

for arterial gas tensions in unstable clinical situations.
CT Check Tags: Comparative Study; Human
*Anoxia: BL, blood
*Blood Gas Monitoring, Transcutaneous: IS, instrumentation
Evaluation Studies
*Respiratory Tract Diseases: BL, blood

L22 ANSWER 17 OF 35 MEDLINE
AN 91295679 MEDLINE
DN 91295679
TI Effect of low concentrations of ozone on inhaled allergen responses in asthmatic subjects [see comments].
CM Comment in: Lancet 1991 Jul 27;338(8761):221-2
AU Molfino N A; Wright S C; Katz I; Tarlo S; Silverman F; McClean P A; Szalai J P; Raizenne M; **Slutsky A S; Zamel N**
CS Department of Medicine, University of Toronto, Ontario, Canada.
SO LANCET, (1991 Jul 27) 338 (8761) 199-203.
Journal code: L0S. ISSN: 0140-6736.
CY ENGLAND: United Kingdom
DT (CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199110
AB The relation between inhalation of ambient concentrations of ozone and airway reactivity to inhaled allergens may be important in asthma, since both agents can produce inflammatory changes in the airways. Seven asthmatic patients (mean age 40 [SD 13] years), with seasonal symptoms of asthma and positive skin tests for ragweed or grass, took part in a study to investigate whether exposure to low concentrations of ozone potentiates the airway allergic response. The patients were studied during 4 separate weeks in the winter. In each week there were 3 study days: on days 1 and 3 methacholine challenges were carried out; and on day 2 the subject received one of four combined challenges in a single-blind design--air **breathing** followed by inhalation of allergen diluent (placebo); ozone followed by inhalation of allergen diluent; air followed by allergen; or ozone followed by allergen. The ozone concentration was 0.12 ppm during 1 h of tidal **breathing** at rest, and allergens were inhaled until the forced expiratory volume in 1 s (FEV1) had fallen by 15% (PC15). There were no significant differences in baseline FEV1 after exposure to ozone but PC15 was significantly reduced when allergen was preceded by ozone inhalation: the mean PC15 after air was 0.013 (SD 0.017) mg/ml compared with 0.0056 (0.0062) mg/ml after ozone ($p = 0.042$). Thus, low ozone concentrations, similar to those commonly occurring in urban areas, can increase the bronchial responsiveness to allergen in atopic asthmatic subjects. This effect does not seem to be the result of changes in baseline airway function.
CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Adult
*Air Pollutants, Environmental: AE, adverse effects
Air Pollutants, Environmental: AN, analysis
Allergens
Analysis of Variance

Asthma: ET, etiology
*Asthma: PP, physiopathology
*Bronchial Provocation Tests
Bronchoconstriction
Forced Expiratory Volume
Middle Age
Ozone: AD, administration & dosage
*Ozone: AE, adverse effects
Ozone: AN, analysis
RN 10028-15-6 (Ozone)
CN 0 (Air Pollutants, Environmental); 0 (Allergens)

L22 ANSWER 18 OF 35 MEDLINE DUPLICATE 9
AN 90109884 MEDLINE
DN 90109884
TI Glottic and cervical tracheal narrowing in patients with obstructive sleep apnea.
AU Rubinstein I; Bradley T D; **Zamel N**; Hoffstein V
CS Department of Medicine, St. Michael's Hospital, Toronto, Ontario, Canada..
SO JOURNAL OF APPLIED PHYSIOLOGY, (1989 Dec) 67 (6) 2427-31.
Journal code: HEG. ISSN: 8750-7587.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199004
AB There are several studies showing that patients with idiopathic obstructive sleep apnea (OSA) have a narrow and collapsible pharynx that may predispose them to repeated upper airway occlusions during sleep. We hypothesized that this structural abnormality may also extend to the glottic and tracheal region. Consequently, we measured pharyngeal (Aph), glottic (Agl), cervical tracheal (Atr1), midtracheal (Atr2), and distal (Atr3) tracheal areas during tidal **breathing** in 66 patients with OSA (16 nonobese and 50 obese) and 8 nonapneic controls. We found that Aph, Agl, and Atr1, but not Atr2 or Atr3, were significantly smaller in the OSA group than in the control group. Obese patients with OSA had the smallest upper airway area, although the nonapneic controls had the largest areas. Multiple linear regression **analysis** revealed that the pharyngeal area, cervical tracheal area, and body mass index were all independent determinants of the apnea-hypopnea index, accounting for 31% of the variability in apnea-hypopnea index. Aph, Agl, and Atr showed significant correlation with the body mass index. We conclude that sleep-disordered **breathing** is associated with diffuse upper airway narrowing and that obesity contributes to this narrowing. Furthermore, we speculate that a common pathophysiological mechanism may be responsible for this reduction in upper airway area extending from the pharynx to the proximal trachea.
CT Check Tags: Human; Male; Support, Non-U.S. Gov't
Adult
*Glottis: PP, physiopathology
*Laryngostenosis: CO, complications
Laryngostenosis: PP, physiopathology
Middle Age
Obesity: CO, complications

*Sleep Apnea Syndromes: ET, etiology
Sleep Apnea Syndromes: PP, physiopathology
*Tracheal Diseases: CO, complications
Tracheal Diseases: PP, physiopathology

L22 ANSWER 19 OF 35 MEDLINE DUPLICATE 10
AN 88213205 MEDLINE
DN 88213205
TI Possible mechanisms of periodic **breathing** during sleep.
AU **Chapman K R**; Bruce E N; Gothe B; Cherniack N S
CS Department of Medicine, Case Western Reserve University, Cleveland, Ohio 44106.
NC HL-25830 (NHLBI)
SO JOURNAL OF APPLIED PHYSIOLOGY, (1988 Mar) 64 (3) 1000-8.
Journal code: HEG. ISSN: 8750-7587.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198808
AB To determine the effect of respiratory control system loop gain on periodic **breathing** during sleep, 10 volunteers were studied during stage 1-2 non-rapid-eye-movement (NREM) sleep while **breathing** room air (room air control), while hypoxic (hypoxia control), and while wearing a tight-fitting mask that augmented control system gain by mechanically increasing the effect of ventilation on arterial O2 saturation (SaO2) (hypoxia increased gain). Ventilatory responses to progressive hypoxia at two steady-state end-tidal PCO2 levels and to progressive hypercapnia at two levels of oxygenation were measured during wakefulness as indexes of controller gain. Under increased gain conditions, five male subjects developed periodic **breathing** with recurrent cycles of hyperventilation and apnea; the remaining subjects had nonperiodic patterns of hyperventilation. Periodic **breathers** had greater ventilatory response slopes to hypercapnia under either hyperoxic or hypoxic conditions than nonperiodic **breathers** (2.98 +/- 0.72 vs. 1.50 +/- 0.39 l.min-1.Torr-1; 4.39 +/- 2.05 vs. 1.72 +/- 0.86 l.min-1.Torr-1; for both, P less than 0.04) and greater ventilatory responsiveness to hypoxia at a PCO2 of 46.5 Torr (2.07 +/- 0.91 vs. 0.87 +/- 0.38 l.min-1.% fall in SaO2(-1); P less than 0.04). To assess whether spontaneous oscillations in ventilation contributed to periodic **breathing**, power spectrum **analysis** was used to detect significant cyclic patterns in ventilation during NREM sleep. Oscillations occurred more frequently in periodic **breathers**, and hypercapnic responses were higher in subjects with oscillations than those without. The results suggest that spontaneous oscillations in ventilation are common during sleep and can be converted to periodic **breathing** with apnea when loop gain is increased.
CT Check Tags: Female; Human; Male; Support, U.S. Gov't, P.H.S.
Adult
*Anoxia: PP, physiopathology
Apnea: PP, physiopathology
Blood Gas Analysis
Cheyne-Stokes Respiration: PP, physiopathology
Electroencephalography
*Hypercapnia: PP, physiopathology

Oxygen: BL, blood
***Respiration**
*Sleep: PH, physiology
*Wakefulness: PH, physiology
RN 7782-44-7 (Oxygen)

L22 ANSWER 20 OF 35 MEDLINE DUPLICATE 11
AN 88186676 MEDLINE
DN 88186676
TI Comparison of glottic areas measured by acoustic reflections vs. computerized tomography.
AU D'Urzo A D; Rubinstein I; Lawson V G; Vassal K P; Rebuck A S; **Slutsky A S**; Hoffstein V
CS Department of Medicine, St. Michael's Hospital, Toronto, Ontario, Canada..
SO JOURNAL OF APPLIED PHYSIOLOGY, (1988 Jan) 64 (1) 367-70.
Journal code: HEG. ISSN: 8750-7587.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198807
AB We compared measurements of glottic area obtained by acoustic reflection technique with anatomically equivalent area measured from computerized tomographic (CT) scans of the neck in 11 subjects with glottic pathology. Both measurements were performed in the supine position during tidal **breathing** at functional residual capacity. We found excellent agreement in glottic areas obtained by both methods: the mean (+/- SD) values were 1.8 +/- 0.8 cm2 for the acoustic method and 1.7 +/- 0.9 cm2 for the CT method. Linear regression **analysis** revealed the following relationship between the area measured by acoustic technique (AAC) and that measured by CT (ACT): AAC = 0.81.ACT + 0.36. There was a significant correlation between the two measurements of glottic area (r = 0.95, P less than 0.0001). We conclude that the acoustic reflection technique may be used reliably in clinical and physiological studies concerned with glottic geometry.
CT Check Tags: Comparative Study; Human; Support, Non-U.S. Gov't
*Acoustics
Acoustics: IS, instrumentation
Adult
Aged
*Glottis: PA, pathology
Glottis: RA, radiography
Middle Age
*Tomography, X-Ray Computed

L22 ANSWER 21 OF 35 MEDLINE DUPLICATE 12
AN 87250178 MEDLINE
DN 87250178
TI An isovolume method for **analysis** of density dependence of maximal expiratory flows.
AU Rubinstein I; Vanek A W; McClean P A; Boucher R; **Zamel N**; **Slutsky A S**
SO JOURNAL OF APPLIED PHYSIOLOGY, (1987 May) 62 (5) 2115-20.
Journal code: HEG. ISSN: 8750-7587.
CY United States

DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198710
AB The usual method of measuring density dependence of maximum expiratory flows is superimposition at total lung capacity or residual volume of maximum expiratory flow volume (MEFV) curves obtained **breathing** air and a mixture of 80% He plus 20% O2 (HeO2). A major problem with this technique is the large variability in results, which has been thought to be due to errors in matching lung volumes on both gases. Accordingly, we obtained MEFV curves **breathing** air and HeO2 using a bag-in-the-box system so that the curves **breathing** the two gas mixtures could be directly superimposed without removing the mouthpiece (isovolume). Ten healthy, nonsmoking subjects performed MEFV curves on each gas mixture for six consecutive experiments. We compared the increase in flow at 50% of vital capacity (delta Vmax50) and volume of isoflow (Viso) by superimposing and matching the MEFV curves at total lung capacity, at residual volume, and using the isovolume method. The variability of each method was assessed by the mean intersubject and intrasubject coefficients of variation. In all subjects, the mean delta Vmax50 and Viso as well as their corresponding coefficients of variation were not significantly different among the three methods. We conclude that, in healthy nonsmoking young adults, the method chosen for superimposing and matching MEFV curves has no effect on the variability of delta Vmax50 and Viso.
CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Adult
Air
*Forced Expiratory Flow Rates
Helium
*Maximal Expiratory Flow-Volume Curves
Oxygen
Residual Volume
Total Lung Capacity
Vital Capacity
RN 7440-59-7 (Helium); 7782-44-7 (Oxygen)

L22 ANSWER 22 OF 35 MEDLINE DUPLICATE 13
AN 87126086 MEDLINE
DN 87126086
TI Airway area by acoustic response measurements and computerized tomography.
AU D'Urzo A D; Lawson V G; Vassal K P; Rebuck A S; **Slutsky A S**; Hoffstein V
SO AMERICAN REVIEW OF RESPIRATORY DISEASE, (1987 Feb) 135 (2) 392-5. Journal code: 426. ISSN: 0003-0805.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 198705
AB In order to determine more precisely the accuracy with which the acoustic reflection technique (ART) can infer airway area during spontaneous **breathing**, we compared acoustic measurements of airway area with equivalent areas measured from computerized tomographic (CT) scans of the neck and chest in 7 patients (mean

age, 54 yr; range, 33 to 69 yr) with a history of upper airway abnormalities. At the time of the study, all patients were clinically stable and had no recurrent nerve palsy. Measurements of airway area by ART and CT were performed in the supine posture while patients **breathed** quietly at FRC. We found that there was considerable intersubject variability in area-distance functions determined by acoustic reflections. None of the subjects had a flat tracheal plateau. Once the acoustic and CT data were aligned, we compared cross-sectional areas at various distances from the glottis. Comparison points were separated by 1 cm, and as many as 13 different CT sections were used in some subjects. Mean values for all data points (n = 83) were 2.45 +/- SD = 0.69 cm2 and 2.56 +/- SD = 0.82 cm2 for the acoustic and CT methods, respectively, Z = 0.93; p greater than 0.05. Linear regression **analysis** revealed a correlation coefficient (r) of 0.92; p less than 0.0001. On the basis of these findings, we conclude that the acoustic reflection technique may be used reliably for clinical and physiologic studies of the upper airways in humans.

CT Check Tags: Comparative Study; Human; Support, Non-U.S. Gov't
*Acoustics
Adult
Aged
Glottis: AH, anatomy & histology
Glottis: RA, radiography
Middle Age
Pharynx: AH, anatomy & histology
Pharynx: RA, radiography
*Respiratory System: AH, anatomy & histology
Respiratory System: RA, radiography
*Tomography, X-Ray Computed
Trachea: AH, anatomy & histology
Trachea: RA, radiography

L22 ANSWER 23 OF 35 BIOSIS COPYRIGHT 1998 BIOSIS
AN 86:233111 BIOSIS
DN BR30:115607
TI A RE-**BREATHING** TECHNIQUE FOR **ANALYZING** AIR AND HELIUM-OXYGEN MAXIMAL EXPIRATORY FLOW VOLUME CURVES IN NORMALS.
AU **ZAMEL N**; RUBINSTEIN I; VANEK A W; BOUCHER R; **SLUTSKY A S**
CS DEP. MED., UNIV. TORONTO, TORONTO, ONT., CAN.
SO 70TH ANNUAL MEETING OF THE FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY, ST. LOUIS, MO., USA, APR. 13-18, 1986. FED PROC 45 (3). 1986. 311. CODEN: FEPRA7 ISSN: 0014-9446
DT Conference
LA English
ST ABSTRACT HUMAN SPIROMETER
CC General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemistry-Gases *10012
Biochemical Studies-General 10060
Respiratory System-General; Methods *16001
Respiratory System-Physiology and Biochemistry *16004
BC Hominidae 86215

L22 ANSWER 24 OF 35 MEDLINE
AN 86293968 MEDLINE

DN 86293968
TI Clinical and physiologic heterogeneity of the central sleep apnea syndrome.
AU Bradley T D; McNicholas W T; Rutherford R; Popkin J; **Zamel N**; Phillipson E A
SO AMERICAN REVIEW OF RESPIRATORY DISEASE, (1986 Aug) 134 (2) 217-21. Journal code: 426. ISSN: 0003-0805.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 198611
AB We examined the clinical and respiratory physiologic characteristics of 18 patients in whom a diagnosis of central sleep apnea syndrome was established by overnight polysomnographic studies. The patients could be readily divided into 2 groups on the basis of physiologic and clinical criteria. Five patients had an awake arterial PCO2 (PaCO2) of 53 +/- 4 (SEM) mmHg in the absence of intrinsic bronchopulmonary disease, a ventilatory response to CO2 of 0.6 +/- 0.2 L/min/mmHg, and a hemoglobin concentration of 180 +/- 6 g/L. Their clinical course was dominated by recurrent episodes of respiratory failure. In contrast, the other 13 patients had an awake PaCO2 of 35 +/- 1 mmHg (p less than 0.001), a CO2 response of 2.9 +/- 0.4 L/min/mmHg (p less than 0.005), and a hemoglobin concentration of 150 +/- 5 g/L (p less than 0.005). Clinically, they presented with features typical of sleep apnea; none had a history of respiratory failure. Despite the clinical and physiologic differences between the 2 groups, there were no differences between them in the frequency or duration of nocturnal apneic events or in sleep architecture. The findings indicate that the central sleep apnea syndrome is not a homogeneous disease entity. Rather, it includes 2 groups of patients that are clinically and physiologically distinct, with 1 group chronically hypoventilating and the other group either chronically hyperventilating or ventilating normally.
CT Check Tags: Human; Male; Support, Non-U.S. Gov't
Adult
Airway Resistance
Apnea: CO, complications
*Apnea: PP, physiopathology
Blood Gas Analysis
Electrocardiography
Hypercapnia: CO, complications
Maximal Expiratory Flow Rate
Middle Age
Plethysmography
Respiration
Sleep: PH, physiology
Sleep Stages
Snoring
Tidal Volume
Wakefulness

L22 ANSWER 25 OF 35 MEDLINE
AN 85182421 MEDLINE
DN 85182421
TI Simulation of gas transport due to cardiogenic oscillations.

AU **Slutsky A S**; Khoo M C; Brown R
NC HL-32333 (NHLBI)
SO JOURNAL OF APPLIED PHYSIOLOGY, (1985 Apr) 58 (4) 1331-9.
Journal code: HEG. ISSN: 8750-7587.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198508
AB We simulated gas transport due to cardiogenic oscillations (CO) using a model developed to quantify the gas mixing due to high-frequency ventilation (16). The basic components of the model are 1) gas mixing by augmented transport, 2) symmetrical lung morphometry, and 3) a Lagrangian (moving) reference frame. The theoretical predictions of the model are in general agreement with published experimental studies that have examined the effect of CO on the nitrogen concentration obtained by intrapulmonary gas sampling and the effect of CO on regional and total anatomical dead space. Further, the model predicts that augmentation of gas transport due to CO is less, nearer to the alveolar regions of the lung, and that the effect of CO during normal tidal **breathing** is negligible, but that CO may contribute up to approximately 10% of the alveolar ventilation in patients with severe hypoventilation. The agreement between experimental and theoretical results suggests that it may not be necessary to invoke gas transport mechanisms specific to an asymmetrical bronchial tree to explain the major proportion of gas transport due to CO.
CT Check Tags: Comparative Study; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.
Carbon Monoxide: PD, pharmacology
*Heart: PH, physiology
Lung: AN, analysis
Lung: PH, physiology
*Models, Biological
Nitrogen: AN, analysis
*Pulmonary Ventilation
Respiration: DE, drug effects
Respiratory Dead Space: DE, drug effects
Tidal Volume
RN 630-08-0 (Carbon Monoxide); 7727-37-9 (Nitrogen)

L22 ANSWER 26 OF 35 MEDLINE DUPLICATE 14
AN 84289040 MEDLINE
DN 84289040
TI Gas mixing during high-frequency ventilation: an improved model.
AU Khoo M C; **Slutsky A S**; Drazen J M; Solway J; Gavriely N; Kamm R D
NC HL-26566 (NHLBI)
HL-31011 (NHLBI)
SO JOURNAL OF APPLIED PHYSIOLOGY: RESPIRATORY, ENVIRONMENTAL AND EXERCISE PHYSIOLOGY, (1984 Aug) 57 (2) 493-506.
Journal code: HAL. ISSN: 0161-7567.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198412

AB A model for gas transport during high-frequency ventilation incorporating recently derived empirical forms for the effective diffusivity in oscillatory gas flow through a symmetrical branching network is proposed. The model accounts for the movement of gas among airways with changing cross-sectional area by using a moving-reference-frame **analysis**. The **analysis** technique incorporates the convective purging of the bias flow at the airway opening. The model predicts that although the cycle-averaged CO2 elimination rate (VCO2) depends most strongly on the product of frequency and tidal volume (VT), VT has an effect on its own, a finding consistent with published observations. This "VT effect" is due primarily to the oscillatory movement of gas from more central regions into peripheral regions where large cross-sectional areas promote efficient CO2 transport by molecular diffusion. Although the VT effect exists independent of the presence of a bias flow, placing the bias flow near the main carina can enhance the VT effect substantially. As VT is increased to values in the range of ordinary tidal **breaths**, VCO2 predicted by the model achieves close agreement with VCO2 deduced from conventional gas exchange theory.

CT Check Tags: Comparative Study; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.
Biological Transport
Carbon Dioxide: ME, metabolism
Homeostasis
Lung Volume Measurements
*Models, Biological
*Pulmonary Gas Exchange
Pulmonary Ventilation
***Respiration, Artificial: MT, methods**
Respiratory System: AH, anatomy & histology
Tidal Volume

RN 124-38-9 (Carbon Dioxide)

L22 ANSWER 27 OF 35 MEDLINE DUPLICATE 15
AN 84161488 MEDLINE
DN 84161488
TI Intra-airway gas mixing during high-frequency ventilation.
AU Solway J; Gavriely N; Kamm R D; Drazen J M; Ingram R H Jr; Khoo M C; Brown R; **Slutsky A S**
NC HL-26566 (NHLBI)
HL-00549 (NHLBI)
SO JOURNAL OF APPLIED PHYSIOLOGY: RESPIRATORY, ENVIRONMENTAL AND EXERCISE PHYSIOLOGY, (1984 Feb) 56 (2) 343-54.
Journal code: HAL. ISSN: 0161-7567.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198407
AB We examined the intra-airway gas transport mediated by high-frequency oscillations (HFO) in 10 nonintubated healthy volunteers using a method based on comparisons of single-**breath** N2-washout curves obtained after various durations of **breath** hold or high-frequency oscillations. With a mathematical **analysis** based on Fick's law of diffusion we computed the local transport parameter, effective diffusivity,

during oscillations of frequency 2-24 Hz and tidal volume 10-120 ml and during **breath** hold alone. Local effective diffusivity increased with both oscillatory frequency and tidal volume at all levels in the tracheobronchial tree; the enhancing effect of tidal volume on local effective diffusivity was more pronounced than that of frequency so that effective diffusivity was greater with larger tidal volume at fixed frequency-tidal volume product (f . VT). The greatest enhancement of gas mixing within the lung during HFO (over **breath** hold) was seen in the central airways. In previous studies examining CO2 removal rate during HFO (J. Clin. Invest. 68: 1475, 1981), we found that CO2 output was also greater with larger tidal volume at fixed f . VT, and we attributed this to an end constraint imposed by a fresh gas bias flow. Results of the current study, performed without a bias flow, indicate that bias flow end constraint does not solely account for the observed dependence of CO2 output on frequency and tidal volume.

CT Check Tags: Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.
Adult
Biological Transport
*Gases: ME, metabolism
Mathematics
Middle Age
Physiology: IS, instrumentation
***Respiration, Artificial**
Tidal Volume

CN 0 (Gases)

L22 ANSWER 28 OF 35 MEDLINE
AN 82052681 MEDLINE
DN 82052681
TI Gas mixing by cardiogenic oscillations: a theoretical quantitative **analysis**.
AU **Slutsky A S**
NC HL-26566 (NHLBI)
SO JOURNAL OF APPLIED PHYSIOLOGY: RESPIRATORY, ENVIRONMENTAL AND EXERCISE PHYSIOLOGY, (1981 Nov) 51 (5) 1287-93.
Journal code: HAL. ISSN: 0161-7567.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198203
AB A quantitative theoretical model of the enhanced gas mixing secondary to cardiogenic oscillations is presented based on the concept of augmented gas transport within the tracheobronchial tree (Science 209: 609, 1980). The model assumes "well-mixed" flow in the upper airways with the enhanced mixing described by Deff = Dmol + K . ud, where Deff is the effective diffusivity; Dmol, the molecular diffusivity: K, a constant; u, the root-mean-square flow; and d, the airway diameter. In the smaller airways on **analysis** based on Taylor laminar dispersion is used described by Deff = Dmol + (1/192) (ud)2/Dmol. The model predicts that, in dogs, cardiogenic oscillations should enhance gas mixing about 10-fold depending on the flow rates generated by the heart. Other predictions are that the augmentation of gas mixing should be greater 1) at lower lung volumes, 2) with sulfur hexafluoride vs. helium or air, 3) after

peripheral airway dilation, and 4) after central airways constriction. Theoretical predictions are very close to published experimental results where available. This model should help in the development of mathematical models of gas mixing within the lungs that will include the contribution of cardiogenic oscillations.
CT Check Tags: Support, Non-U.S. Gov't; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.
Mathematics
Models, Biological
*Myocardial Contraction
***Respiration**

L22 ANSWER 29 OF 35 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 80075181 EMBASE
TI Estimating central and peripheral respiratory resistance: An alternative **analysis**.
AU **Slutsky A.S.**; Drazen J.M.
CS Dept. Med., Peter Bent Brigham Hosp., Boston, Mass. 02115, United States
SO J. APPL. PHYSIOL., (1979) 47/6 (1325-1331).
CODEN: JARPDU
CY United States
LA English
AB Pimmel et al. (J. Appl. Physiol., Respirat. Exercise Physiol. 45: 375-380, 1978) recently presented an **analysis** of the frequency dependence of respiratory resistance (Rrs) based on a simple electrical analog of the respiratory system that allows estimation of the central (Rc) and peripheral (Rp) components of Rrs. The method by which they determine these parameters from the experimental data is based on a number of unproven assumptions. Using the same electrical analog, we present an **analysis** that allows calculation of these parameters, as well as the corner frequency of the network (f1), without need for similar assumptions. Our technique is based on fitting the resistances (RTh) measured over a range of frequencies (f) to the exact solution of the network given by RTh = Tc + Rpf12/(f2 + f12 Using the transformation X = a/(f2 + f12), the equation becomes a linear relationship between RTh and X allowing the resistances to be determined by linear regression. Reanalysis of Pimmel et al.'s data demonstrated that the assumptions of a constant f1, and the equivalence of RTh at 0 Hz to RTh at 1 Hz is invalid under certain conditions. Thus, if one is to use the electrical analog to partition Rrs into its central and peripheral components, one should use the **analytic** approach suggested here that does not rely on these assumptions.
CC 002.06.00.00.00.
015.01.03.08.00.
027.02.06.00.00.
027.06.08.00.00.
CT EMTAGS: respiratory system (0930); nonbiological model (0503)
Medical Descriptors:
***breathing mechanics**
*airway resistance
mathematic model

L22 ANSWER 30 OF 35 MEDLINE
AN 79163854 MEDLINE
DN 79163854

TI Pulmonary function in identical twins: comparison of nonsmokers and smokers.
AU Webster P M; Lorimer E G; Man S F; Woolf C R; **Zamel N**
SO AMERICAN REVIEW OF RESPIRATORY DISEASE, (1979 Feb) 119 (2) 223-8. Journal code: 426. ISSN: 0003-0805.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 197908
AB Forty-five apparently normal pairs of identical twins were given pulmonary function tests to determine the role of genetics in bronchial susceptibility to cigarette smoke. Maximal expiratory flow at 60 per cent of total lung capacity (Vmax60) was the best discriminator of smokers from nonsmokers among pairs in which one member smoked and the other did not. The intrapair difference of Vmax60 values in pairs in which both members smoked was the same as in pairs in which both members did not smoke. These data support the view that genetic factors are important in determining the vulnerability of the airways to cigarette smoke.
CT Check Tags: Comparative Study; Female; Human; Male
Adult
Analysis of Variance
Closing Volume
Inspiratory Capacity
Maximal Expiratory Flow Rate
Maximal Expiratory Flow-Volume Curves
Pregnancy
Pulmonary Diffusing Capacity
Residual Volume
***Respiration**
Sex Factors
*Smoking: PP, physiopathology
Total Lung Capacity
*Twins
*Twins, Monozygotic
Vital Capacity

L22 ANSWER 31 OF 35 MEDLINE DUPLICATE 16
AN 78185266 MEDLINE
DN 78185266
TI Interaction of metabolic and behavioral respiratory control during hypercapnia and speech.
AU Phillipson E A; McClean P A; Sullivan C E; **Zamel N**
SO AMERICAN REVIEW OF RESPIRATORY DISEASE, (1978 May) 117 (5) 903-9. Journal code: 426. ISSN: 0003-0805.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 197809
CT Check Tags: Female; Human; Male
Adult
Carbon Dioxide: AN, analysis
Dyspnea: PX, psychology
*Hypercapnia: ME, metabolism
*Hypercapnia: PX, psychology

Partial Pressure
Pulmonary Ventilation
***Respiration**
Respiratory Center: PP, physiopathology
*Speech
Tidal Volume

L22 ANSWER 32 OF 35 MEDLINE DUPLICATE 17
AN 78033724 MEDLINE
DN 78033724
TI A mathematical expression to describe the ventilatory response to hypoxia and hypercapnia.
AU Rebuck A S; **Slutsky A S**; Mahutte C K
SO RESPIRATION PHYSIOLOGY, (1977 Sep) 31 (1) 107-16.
Journal code: R88. ISSN: 0034-5687.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 197802
AB A mathematical expression has been developed to describe the ventilatory responses to changes in arterial oxygen saturation (SaO2) and arterial carbon dioxide tension (PCO2). The derivation is based on the experimental observations: (1) that ventilation is a linear function of PCO2 under isoxic conditions, and (2) that ventilation is a linear function of SaO2 under isocapnic conditions. It is assumed that all functions are continuous and single valued, with the implication that for any given SaO2 and PCO2 there is a unique ventilatory response. The **analysis** following from these three assumptions has enabled us to derive the following expression for ventilation: VI(SaO2, PCO2) = alpha1 - SaO2 - PCO2 + alpha2 - SaO2 + alpha3 - PCO2 + alpha4 where the alpha's are constants for an individual. This equation, which follows uniquely from the assumption stated, is simpler and contains fewer parameters than previous expressions used to describe ventilation.
CT Check Tags: Human
*Anoxia: PP, physiopathology
*Hypercapnia: PP, physiopathology
Mathematics
Models, Biological
***Respiration**

L22 ANSWER 33 OF 35 MEDLINE
AN 75052980 MEDLINE
DN 75052980
TI Lung function in alpha1-antitrypsin heterozygotes (Pi type MZ).
AU Cooper D M; Hoeppner V; Cox D; **Zamel N**; Bryan A C; Levison H
SO AMERICAN REVIEW OF RESPIRATORY DISEASE, (1974 Dec) 110 (6) 708-15.
Journal code: 426. ISSN: 0003-0805.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 197503
CT Check Tags: Female; Human; Male
*alpha 1-Antitrypsin: DF, deficiency

Adolescence
Adult
Age Factors
Heterozygote
Lung Compliance
*Lung Diseases: GE, genetics
*Lung Diseases: PP, physiopathology
Middle Age
Oxygen: BL, blood
Plethysmography, Whole Body
Pulmonary Emphysema: GE, genetics
Pulmonary Emphysema: PP, physiopathology
Pulmonary Ventilation
Regression Analysis
***Respiration**
Respiratory Function Tests
Risk
Smoking
Vital Capacity

L22 ANSWER 34 OF 35 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 75143748 EMBASE
TI Volume of isoflow. A new test in detection of mild abnormalities of lung mechanics.
AU Hutcheon M.; Griffin P.; Levison H.; **Zamel N.**
CS Dept. Int. Med. Ped., Univ. Toronto, Canada
SO AMER.REV.RESP.DIS., (1974) 110/4 (458-465).
CODEN: ARRDAB
LA English
AB The response of maximal expired flow, **breathing** a mixture of 80% helium and 20% oxygen, was **analyzed** in 18 nonsmokers and 17 smokers. The volume in which flow was the same air and with the 80% helium and 20% oxygen mixture, the volume of isoflow, was measured and compared to routine pulmonary function tests, closing capacity, and flow vs volume curves in air. The volume of isoflow was found to separate the 2 groups best. Comparison of a spirometer and plethysmograph with different periods of time **breathing** the helium mixture revealed that spirometry after 3 vital capacity inspirations maintained the sensitivity of separation of the groups, and, thus, this method is practical for mass screening.
CC 006.02.01.00.00.
006.05.01.00.00.
006.11.01.00.00.
015.01.03.00.00.
015.01.04.00.00.
015.06.04.00.00.
CT EMTAGS: methodology (0130); diagnosis (0140); major clinical study (0150); theoretical study (0110)
Medical Descriptors:
*helium
*oxygen
*smoking
*lung function
*spirography
*body plethysmography
*lung compliance

*plethysmography
*airway obstruction

L22 ANSWER 35 OF 35 MEDLINE
AN 70229583 MEDLINE
DN 70229583
TI Powdered tantalum.
AU Nadel J A; Wolfe W G; Graf P D; Youker J E; **Zamel N**; Austin J H; Hinchcliffe W A; Greenspan R H; Wright R R
SO NEW ENGLAND JOURNAL OF MEDICINE, (1970 Aug 6) 283 (6) 281-6. Journal code: NOW. ISSN: 0028-4793.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 197010
CT Check Tags: Human
Adhesiveness
Bronchial Neoplasms: RA, radiography
*Bronchography
*Contrast Media
Contrast Media: AE, adverse effects
Histocytochemistry
Lung: AN, analysis
Lung: PA, pathology
Lung Diseases: RA, radiography
Methods
Powders
Pulmonary Alveoli: AN, analysis
Respiration: DE, drug effects
Respiratory System: RA, radiography
*Tantalum
Tantalum: AN, analysis
Tantalum: PD, pharmacology
Tracheal Stenosis: RA, radiography

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=> file medline
FILE 'MEDLINE' ENTERED AT 09:15:04 ON 12 AUG 1998

 FILE LAST UPDATED: 11 AUG 1998 (19980811/UP).  FILE COVERS 1966 TO DATE.

 THE MEDLINE FILE WAS RELOADED FEBRUARY 15, 1998, TO REFLECT THE ANNUAL
 MESH (MEDICAL SUBJECT HEADING) CHANGES.  ENTER HELP RLOAD FOR DETAILS.

 THIS FILE CONTAINS CAS REGISTRY NUMBERS FOR EASY AND ACCURATE
 SUBSTANCE IDENTIFICATION.

=> d his full


L1          3894 SEA ABB=ON  PLU=ON  BREATH TESTS/CT
L2           843 SEA ABB=ON  PLU=ON  NITRIC OXIDE (L) AN/CT
L3            64 SEA ABB=ON  PLU=ON  L1 AND L2
L4        468560 SEA ABB=ON  PLU=ON  C8./CT
L5            30 SEA ABB=ON  PLU=ON  L3 AND L4
L6          2237 SEA ABB=ON  PLU=ON  GLOTTIS/CT
L7             0 SEA ABB=ON  PLU=ON  L3 AND L6
L8             0 SEA ABB=ON  PLU=ON  L1 AND L6
L9          8010 SEA ABB=ON  PLU=ON  POSITIVE-PRESSURE RESPIRATION/CT
L10         1134 SEA ABB=ON  PLU=ON  POSITIVE-PRESSURE RESPIRATION (L)
                 MT/CT
L11            2 SEA ABB=ON  PLU=ON  L3 AND L9
L12            1 SEA ABB=ON  PLU=ON  L1 AND L10
L14           11 SEA ABB=ON  PLU=ON  L6 AND L9
L15            3 SEA ABB=ON  PLU=ON  L6 AND L10
L16           11 SEA ABB=ON  PLU=ON  L14 OR L15
L17         3966 SEA ABB=ON  PLU=ON  CARBON(W)DIOXIDE (L) AN/CT
L18          385 SEA ABB=ON  PLU=ON  L1 AND L17
L19            1 SEA ABB=ON  PLU=ON  L18 AND L10
L20            7 SEA ABB=ON  PLU=ON  L18 AND L9
L21            7 SEA ABB=ON  PLU=ON  L19 OR L20
L22          288 SEA ABB=ON  PLU=ON  VELUM OR VELLUM
L23            1 SEA ABB=ON  PLU=ON  (L18 OR L3) AND L22
L24            0 SEA ABB=ON  PLU=ON  L22 AND L10
L25            0 SEA ABB=ON  PLU=ON  L22 AND L9
L26            4 SEA ABB=ON  PLU=ON  PRESSUR?(9A)L22
L27            8 SEA ABB=ON  PLU=ON  CLOS?(3A)L22
L28           11 SEA ABB=ON  PLU=ON  L26 OR L27
L29         1402 SEA ABB=ON  PLU=ON  SOFT(W)PALATE
L30         5368 SEA ABB=ON  PLU=ON  (NASAL OR NASOPHARYN?)(2A)CAVITY
L31            9 SEA ABB=ON  PLU=ON  L1 AND (L29 OR L30)
L32           19 SEA ABB=ON  PLU=ON  L28 OR L31
L33           16 SEA ABB=ON  PLU=ON  L11 OR L12 OR L13
L34         3273 SEA ABB=ON  PLU=ON  (DETECT? OR SENSE# OR SENSING# OR
                 ANALY? OR ANAL# OR ASSAY? OR EST# OR ESTN# OR ESTIMAT?
                 OR QUANTIF? OR QUANTITAT? OR CALCULAT? OR CALC# OR
                 CALCN# OR MEASUR? OR MONITOR?)(9A)BREATH
L35        12918 SEA ABB=ON  PLU=ON  PARTIAL PRESSURE/CT
L36         7990 SEA ABB=ON  PLU=ON  (PULMONARY OR LUNG)(3A)GAS
L37          261 SEA ABB=ON  PLU=ON  L34 AND L36
L38           10 SEA ABB=ON  PLU=ON  L3 AND L34
L39            2 SEA ABB=ON  PLU=ON  L5 AND L34
L40           33 SEA ABB=ON  PLU=ON  L1 AND L37
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L41          10 SEA ABB=ON  PLU=ON  L40 AND (L2 OR L17)
L42          18 SEA ABB=ON  PLU=ON  L38 OR L39 OR L41
L43           7 SEA ABB=ON  PLU=ON  L34 AND (L21 OR L16 OR L32 OR L33)
L44           5 SEA ABB=ON  PLU=ON  L43 NOT L42
L45          46 SEA ABB=ON  PLU=ON  L21 OR L16 OR L32 OR L33
L46          25 SEA ABB=ON  PLU=ON  L45 AND L1
L47          20 SEA ABB=ON  PLU=ON  L45 NOT (L46 OR L42 OR L44)
L48          19 SEA ABB=ON  PLU=ON  L46 NOT (L42 OR L44)


=> d 142 1-18 all

L42  ANSWER 1 OF 18  MEDLINE
AN   97479183     MEDLINE
DN   97479183
TI   Exhaled NO during graded changes in inhaled oxygen in man.
AU   Schmetterer L; Strenn K; Kastner J; Eichler H G; Wolzt M
CS   Department of Clinical Pharmacology, University of Vienna, Austria.
SO   THORAX, (1997 Aug) 52 (8) 736-8.
     Journal code: VQW. ISSN: 0040-6376.
CY   ENGLAND: United Kingdom
DT   (CLINICAL TRIAL)
     Journal; Article; (JOURNAL ARTICLE)
     (RANDOMIZED CONTROLLED TRIAL)
LA   English
FS   Priority Journals; Cancer Journals
EM   199801
EW   19980104
AB   BACKGROUND: Nitric oxide (NO) is present in the exhaled air of
     animals and humans. In isolated animal lungs the amount of exhaled
     NO is decreased during hypoxia. A study was undertaken to determine
     whether changes in arterial oxygen tension affect levels of exhaled
     NO in humans. METHODS: Sixteen healthy subjects were randomised to
     inhale different gas mixtures of oxygen and nitrogen in a double
     blind crossover study. Eight gas mixtures of oxygen and nitrogen
     (fractional inspired oxygen concentration (FiO2) 0.1 to 1.0) were
     administered. Exhaled NO was measured with a
     chemiluminescence detector from end expiratory single
     breath exhalation. RESULTS: A dose-dependent change in
     exhaled NO during graded oxygen breathing was observed (p = 0.0012).
     The mean (SE) exhaled NO concentration was 31 (3) ppb at baseline,
     39 (4) ppb at an FiO2 of 1.0, and 26 (3) ppb at an FiO2 of 0.1.
     CONCLUSIONS: The NO concentration in exhaled air in healthy humans
     is dependent on oxygen tension. Hyperoxia increases the level of
     exhaled NO, which indicates increased NO production. The mechanism
     behind this phenomenon remains to be elucidated.
CT   Check Tags: Female; Human; Male
      Administration, Inhalation
      Adult
      Anoxia: ME, metabolism
      Breath Tests
      Dose-Response Relationship, Drug
      Hyperoxia: ME, metabolism
     *Nitric Oxide: AN, analysis
      Oxygen: AD, administration & dosage
     *Oxygen: BL, blood
```

Pilot Projects
RN 10102-43-9 (Nitric Oxide); 7782-44-7 (Oxygen)

L42 ANSWER 2 OF 18 MEDLINE
AN 97471472 MEDLINE
DN 97471472
TI Decreased concentration of exhaled nitric oxide (NO) in patients with cystic fibrosis.
AU Grasemann H; Michler E; Wallot M; Ratjen F
CS Department of Pediatrics, University of Essen, Germany.
SO PEDIATRIC PULMONOLOGY, (1997 Sep) 24 (3) 173-7.
Journal code: OWH. ISSN: 8755-6863.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199801
EW 19980104
AB Nitric oxide (NO) is produced by various cell types in the human respiratory tract. Endogenously produced nitric oxide is detectable in the exhaled air of healthy individuals. Exhaled NO has been shown to be increased in airway inflammation, most probably due to cytokine-mediated activation of NO synthases. To assess whether NO can serve as a marker of inflammation in cystic fibrosis (CF) lung disease, we measured exhaled NO in CF patients with a chemiluminescence **analyser**. Single **breath measurements** were performed in 27 stable CF patients (age range, 6-40 years) and 30 non-smoking controls (age range, 6-37 years). Exhaled NO concentrations were 9.1 +/- 3.6 ppb in the controls and 5.9 +/- 2.6 ppb ($P < 0.001$) in CF patients. To account for room air NO concentrations on the measurement of exhaled NO, we also calculated the difference between exhaled NO and ambient NO concentrations. Difference values were also significantly lower in CF compared with controls ($P < 0.0001$). In CF patients there was a positive correlation between exhaled NO and forced vital capacity ($r = 0.43$, $P = 0.033$), suggesting that exhaled NO is lower in patients with severe lung disease than in those with mild disease. We conclude that measurements of exhaled NO in CF does not reflect activity of CF airway inflammation. The decreased concentrations of exhaled NO may be due to inhibitory effects of inflammatory cytokines on NO syntheses in the airways and alveolar epithelial cells or to increased retention in airway secretions.
CT Check Tags: Female; Human; Male
Adolescence
Adult
Biological Markers: AN, analysis
Breath Tests
Case-Control Studies
Chemiluminescence
Child
Cystic Fibrosis: CO, complications
***Cystic Fibrosis: ME, metabolism**
***Lung Diseases: DI, diagnosis**
Lung Diseases: ET, etiology
Nitric Oxide: AN, analysis
*Nitric Oxide: BI, biosynthesis
RN 10102-43-9 (Nitric Oxide)

CN 0 (Biological Markers)

L42 ANSWER 3 OF 18 MEDLINE
AN 97458822 MEDLINE
DN 97458822
TI Nitric oxide production during exercise in chronic heart failure.
AU Adachi H; Nguyen P H; Belardinelli R; Hunter D; Jung T; Wasserman K
CS Division of Respiratory and Critical Care Physiology and Medicine, Harbor-UCLA Medical Center, Torrance, USA.
SO AMERICAN HEART JOURNAL, (1997 Aug) 134 (2 Pt 1) 196-202. Journal code: 3BW. ISSN: 0002-8703.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199712
EW 19971203
AB In chronic heart failure (CHF), the ventilatory response is increased compared with normal. This response is, in part, caused by reduced perfusion to ventilated lung. Nitric oxide (NO) is a potent vasodilator and may have an important role in pulmonary vasodilatation during exercise. NO is present in exhaled air. The amount of NO in exhaled air, when breathing NO-free compressed air, is known to increase in normal subjects during exercise. In this study, we quantified NO output in exhaled air in patients with CHF during exercise. Six patients with CHF (New York Heart Association Class II and III; two with dilated cardiomyopathy, three with ischemic heart disease, and one with hypertensive heart disease) and six normal subjects were studied with a symptom-limited incremental exercise test on a cycle ergometer. Oxygen uptake (VO2), carbon dioxide output (VCO2), and minute ventilation (VE) were **measured breath** by **breath** with a mass spectrometer, flow meter, and computer. The NO concentration was continuously measured in mixed expired air by chemiluminescence. Peak exercise work rate was lower in patients with CHF than in normal subjects (71.3 +/- 41.6 W vs 257.0 +/- 49.7 W; $p < 0.01$). Patients with CHF showed a higher VE/VCO2 level at peak exercise than normal subjects (CHF, 47.0 +/- 10.7; normal subjects, 35.6 +/- 5.2; $p < 0.01$). NO concentration of exhaled air at rest was lower in CHF patients than in normal subjects (4.0 +/- 2.2 ppb vs 10.5 +/- 6.2 ppb, respectively; $p < 0.05$). NO output from the respiratory tract (VNO) was significantly lower in patients with CHF compared with normal subjects at rest (45.3 +/- 24.3 nl/min, 117.5 +/- 60.1 nl/min, respectively, $p < 0.05$), and although it increased during exercise, it did not increase in patients with CHF as much as in normal subjects (75.3 +/- 43.4 nl/min vs 512.9 +/- 253.6 nl/min, respectively; $p < 0.01$). The increase above rest (exercise/rest) was smaller in patients with CHF than in normal subjects (2.10 +/- 1.92 vs 4.81 +/- 2.67, $p < 0.05$). These data support the concept that the smaller increase in NO production (VNO) during exercise may be responsible for a blunted vasodilation in patients with CHF, resulting in a smaller reduction in dead space/tidal volume and VE/VCO2 at the lactic acidosis threshold than normal. This finding may play a role in the abnormally high ventilatory response to exercise in patients with CHF.
CT Check Tags: Human
Adult

Breath Tests
Cardiac Output, Low: ET, etiology
*Cardiac Output, Low: ME, metabolism
Cardiac Output, Low: PP, physiopathology
Cardiomyopathy, Congestive: ME, metabolism
Cardiomyopathy, Congestive: PP, physiopathology
Chronic Disease
*Exercise: PH, physiology
Exercise Test
Hypertension: CO, complications
Hypertension: ME, metabolism
Hypertension: PP, physiopathology
Middle Age
Myocardial Ischemia: CO, complications
Myocardial Ischemia: ME, metabolism
Myocardial Ischemia: PP, physiopathology
Nitric Oxide: AN, analysis
*Nitric Oxide: BI, biosynthesis
Pulmonary Gas Exchange
Reference Values
RN 10102-43-9 (Nitric Oxide)

L42 ANSWER 4 OF 18 MEDLINE
AN 97331276 MEDLINE
DN 97331276
TI Noninvasive determination of cardiac output in a model of acute lung injury.
AU Arnold J H; Stenz R I; Grenier B; Thompson J E; Arnold L W
CS Department of Anesthesia, Children's Hospital, Boston, MA 02115, USA.
NC HL-02395 (NHLBI)
SO CRITICAL CARE MEDICINE, (1997 May) 25 (5) 864-8.
Journal code: DTF. ISSN: 0090-3493.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199709
EW 19970903
AB OBJECTIVE: To examine the utility of single **breath** CO2 **analysis** as a noninvasive **measure** of cardiac output in a model of acute lung injury. SETTING: An animal laboratory in a university-affiliated medical center. DESIGN: A prospective, animal cohort study comparing 21 parameters derived from single **breath** CO2 **analysis** with cardiac output determined by an ultrasonic flow probe. SUBJECTS: Six adult sheep with saline lavage-induced acute lung injury. INTERVENTIONS: Animals were treated with repetitive saline lavage to achieve a uniform degree of acute lung injury (PaO2 of < 100 torr [< 13.32 kPa] on an FIO2 of 1.0). Cardiac output was manipulated by successive injections of an hydraulic constrictor placed around the inferior vena cava and measured using an ultrasonic flow probe. Twenty-one derived components of the CO2 expirogram were evaluated as predictors of cardiac output. MEASUREMENTS AND MAIN RESULTS: Thirty-eight measurements of cardiac output were available for comparison with derived variables from the CO2 expirogam. Stepwise linear regression identified four variables for the equation

predicting cardiac output: a) PaO2/FIO2 ratio; b) the angle between the slope lines for phases II and III divided by the tidal volume; c) mixed expired CO2 tension; and d) physiologic deadspace to tidal volume ratio. The multivariate equation was highly statistically significant and explained 80% of the variance (adjusted R2 = .80, p < .0001). The blas and precision of the calculated cardiac output were .00 and .38, respectively. The mean percent difference for the cardiac output **estimates** derived from the single **breath** CO2 **analysis** station was -0.01%.
CONCLUSIONS: Our results indicate that changes in cardiac output can be determined using components of the CO2 expirogram with a high degree of reliability in animals with induced acute lung injury. Specifically, the use of four parameters derived from a plot of expired CO2 concentration vs. expired volume predict changes in cardiac output in adult sheep with induced lung injury with an adjusted coefficient of determination of .80. Prospective application of this technology in the clinical setting with the rapidly changing physiology that is characteristic of the acutely ill patient will be essential in determining the clinical usefulness of single **breath** CO2 **analysis** as a noninvasive **measure** of cardiac output.

CT Check Tags: Animal; Comparative Study; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Acute Disease
Breath Tests
***Carbon Dioxide: AN, analysis**
*Cardiac Output
Disease Models, Animal
Lung Diseases: ME, metabolism
*Lung Diseases: PP, physiopathology
Pulmonary Gas Exchange
Regression Analysis
Sheep
RN 124-38-9 (Carbon Dioxide)

L42 ANSWER 5 OF 18 MEDLINE
AN 97292217 MEDLINE
DN 97292217
TI Nitric oxide from the human respiratory tract efficiently **quantified** by standardized single **breath measurements**.
AU Hogman M; Stromberg S; Schedin U; Frostell C; Hedenstierna G; Gustafsson E
CS Department of Clinical Physiology, Uppsala University, Sweden.
SO ACTA PHYSIOLOGICA SCANDINAVICA, (1997 Apr) 159 (4) 345-6.
Journal code: 1U4. ISSN: 0001-6772.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199709
EW 19970904
CT Check Tags: Human; Support, Non-U.S. Gov't
***Breath Tests: MT, methods**
***Nitric Oxide: AN, analysis**
Peak Expiratory Flow Rate: PH, physiology
Positive-Pressure Respiration

Reproducibility of Results
*Respiratory System: CH, chemistry
RN 10102-43-9 (Nitric Oxide)

L42 ANSWER 6 OF 18 MEDLINE
AN 97191799 MEDLINE
DN 97191799
TI Selected ion flow tube: a technique for **quantitative** trace gas **analysis** of air and **breath**.
AU Spanel P; Smith D
CS Department of Biomedical Engineering and Medical Physics, Hospital Centre, University of Keele, Stoke-on-Trent, Staffs, UK.
SO MEDICAL AND BIOLOGICAL ENGINEERING AND COMPUTING, (1996 Nov) 34 (6) 409-19.
Journal code: LPN. ISSN: 0140-0118.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
EM 199705
EW 19970504
AB The selected ion flow tube (SIFT) technique for trace gas **analysis** of air and **breath** is based on soft chemical ionisation of the trace gases to the exclusion of the major air and breath gases, in fast-flowing inert carrier gas, exploiting the ion-molecule reactions that occur between the trace gases and the pre selected precursor ions (H3O+, NO+ and O2+). The physics and ion chemistry involved in the SIFT technique are described, as are the kinetics of the ion-molecule reactions that are exploited to quantitatively analyse the trace gases. Fast on-line data-acquisition hardware and software have been developed to analyse the mass spectra obtained, from which partial pressures of the trace gases down to about 10 parts per billion can be measured. The time response of the instrument is 20 ms, allowing the profiles of the trace gas concentrations on breath to be obtained during a normal breathing cycle. Pilot results obtained with this SIFT technique include **detection** and **quantification** of the most abundant **breath** trace gases, **analysis** of cigarette smoke, **detection** of gases present on smokers' **breath** and accurate **measurement** of the partial pressures of NH3, NO and NO2 in air. The simultaneous **analysis** of several **breath** trace gases during a single exhalation is clearly demonstrated, and thus different elution times for isoprene and methanol along the respiratory tract are observed. This technique has great potential in many clinical and biological disciplines, and in health and safety monitoring.
CT Check Tags: Human; Support, Non-U.S. Gov't
Air Ionization
Ammonia: AN, analysis
***Breath Tests: MT, methods**
*Environmental Monitoring: MT, methods
*Gases: AN, analysis
Nitric Oxide: AN, analysis
Nitrogen Dioxide: AN, analysis
Spectrum Analysis, Mass: MT, methods
RN 10102-43-9 (Nitric Oxide); 10102-44-0 (Nitrogen Dioxide); 7664-41-7 (Ammonia)
CN 0 (Gases)

L42 ANSWER 7 OF 18 MEDLINE
AN 97154604 MEDLINE
DN 97154604
TI Marked flow-dependence of exhaled nitric oxide using a new technique to exclude nasal nitric oxide.
AU Silkoff P E; McClean P A; Slutsky A S; Furlott H G; Hoffstein E; Wakita S; Chapman K R; Szalai J P; Zamel N
CS Department of Medicine, the University of Toronto, Ontario, Canada.
SO AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (1997 Jan) 155 (1) 260-7.
Journal code: BZS. ISSN: 1073-449X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199704
EW 19970403
AB Exhaled nitric oxide (NO) may aid in **monitoring** pulmonary disease. The single-**breath** NO profile (subjects with nose clip) was described as a NO peak followed by a plateau (NO(PLAT)). Published exhaled NO values vary greatly, possibly due to contamination with nasal NO and differing respiratory maneuvers. We developed a technique to measure pulmonary NO, without nasal NO, by having the subject maintain a positive expiratory pressure (ensuring vellum closure), and we examined the variation in NO(PLAT) over a range of expiratory flows (4.2 to 1,550 ml/s). NO(PLAT) values rose almost 35-fold (3.2 +/- 1.4 ppb to 110.5 +/- 54.8 ppb) with decreasing flow, described by NO(PLAT) = 208.6795 x (flow rate)(-0.5995). However, NO excretion showed an almost 11-fold rise as flow increased. In summary, we present a simple technique for measuring exhaled NO without contamination by nasal NO. There is a marked flow dependence of exhaled NO concentration and excretion. Exhaled pulmonary NO is best measured at very low flow rates to amplify the signal and must be related to the expiratory flow employed.
CT Check Tags: Human; Support, Non-U.S. Gov't
Administration, Inhalation
Adolescence
Adult
***Breath Tests: MT, methods**
Middle Age
Nasal Cavity: ME, metabolism
***Nitric Oxide: AN, analysis**
Nitric Oxide: ME, metabolism
Reproducibility of Results
RN 10102-43-9 (Nitric Oxide)

L42 ANSWER 8 OF 18 MEDLINE
AN 97028234 MEDLINE
DN 97028234
TI Origins of breath nitric oxide in humans [see comments].
CM Comment in: Chest 1996 Oct;110(4):873-4
AU Dillon W C; Hampl V; Shultz P J; Rubins J B; Archer S L
CS Department of Medicine, VA Medical Center, Minneapolis, MN, USA.
NC HL45735 (NHLBI)
SO CHEST, (1996 Oct) 110 (4) 930-8.

Journal code: D1C. ISSN: 0012-3692.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199701
AB STUDY OBJECTIVES: Nitric oxide (NO) exists in the human breath, but little is known about its site of origin or enzyme source. The aims of this study were to locate the main site of NO release into human breath and to decide whether the inducible isoform of NO synthase (iNOS) and nasal bacteria contribute to **breath** NO. DESIGN: Using a chemiluminescence **assay**, NO levels were **measured** in air exhaled from the nose, mouth, trachea, and distal airway. The susceptibility of breath NO to treatment with a topical corticosteroid (to inhibit iNOS; intranasal beclomethasone dipropionate for 2 weeks) and with antibiotics (systemic amoxicillin plus clavulanic acid and intranasal bacitracin zinc, 5 to 10 days) was also tested. PARTICIPANTS: Twenty-one healthy subjects, 9 intubated patients, and 7 patients undergoing bronchoscopy. All subjects were nonsmokers free of pneumonia, rhinitis, and bronchitis. **MEASUREMENTS** AND RESULTS: **Breath** NO levels, collected in the gas sampling bags, were greater ($p < 0.05$) in the nose (25 +/- 2 parts per billion [ppb]) than in the mouth (6 +/- 1 ppb), trachea (3 +/- 1 ppb), or distal airway (1 +/- 2 ppb). Similar results were obtained when NO was sampled directly by cannula from nose or mouth during resting breathing. Nasal breath NO signal increased sharply during 30 s of breath-holding. Beclomethasone, but not antibiotics, decreased nasal NO levels without changing oral breath NO. CONCLUSIONS: Most NO in normal human breath derives locally from the nose where it can reach high levels during breath-holding. NO is synthesized, at least in part, by a steroid-inhibitable, nonbacterial, NO synthase, presumably iNOS.
CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.
Adult
***Breath Tests**
Chemiluminescence
Monitoring, Physiologic: MT, methods
Nitric Oxide: AN, analysis
*Nitric Oxide: BI, biosynthesis
*Respiratory Physiology
*Respiratory System: PH, physiology
RN 10102-43-9 (Nitric Oxide)

L42 ANSWER 9 OF 18 MEDLINE
AN 97028222 MEDLINE
DN 97028222
TI Endogenous nitric oxide in exhaled human **breath**. A new means of **monitoring** airway disease activity or another no-no? [editorial; comment].
CM Comment on: Chest 1996 Oct;110(4):930-8
AU Brett S J; Evans T W
SO CHEST, (1996 Oct) 110 (4) 873-4.
Journal code: D1C. ISSN: 0012-3692.
CY United States
DT Commentary

Editorial
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199701
CT Check Tags: Human
***Breath Tests**
Monitoring, Physiologic
***Nitric Oxide: AN, analysis**
Nitric Oxide: BI, biosynthesis
*Respiratory Physiology
*Respiratory System: PH, physiology
RN 10102-43-9 (Nitric Oxide)

L42 ANSWER 10 OF 18 MEDLINE
AN 96388278 MEDLINE
DN 96388278
TI Reduction of pulmonary capillary blood volume in patients with severe unexplained pulmonary hypertension.
AU Borland C; Cox Y; Higenbottam T
CS Department of Respiratory Physiology, Papworth Hospital, Cambridge, UK.
SO THORAX, (1996 Aug) 51 (8) 855-6.
Journal code: VQW. ISSN: 0040-6376.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199612
AB BACKGROUND: Unexplained or primary pulmonary hypertension results in an obliteration and obstruction of resistance pulmonary arteries. In these patients gas exchange is impaired and the measurement of gas transfer for carbon monoxide is usually reduced. This has been thought to represent a reduction in pulmonary alveolar capillary blood volume (Vc). A single **breath** test, **measuring** simultaneously the uptake of both nitric oxide (NO) and carbon monoxide (CO), provides a simple and practical measurement of membrane diffusion (Dm) and Vc. METHODS: A standard single **breath** test for the **measurement** of gas transfer for carbon monoxide (TLCO) was adapted to include NO (40 ppm) in the inhaled gas mixture and a breath-hold time at total lung capacity of 7.5 seconds was used. Twelve patients with primary pulmonary hypertension and 10 similar normal volunteers were studied while seated at rest. RESULTS: The patients had reduced values for TLCO and TLNO. The mean (SD) value of Dm in the patients was 36.7 (32.1) mmol/min.kPa compared with 52.8 (23.9) mmol/min.kPa in the normal subjects. Vc in the patients was 0.03 (0.03) 1 and 0.06 (0.01) 1 in the normal subjects. CONCLUSIONS: The simultaneous measurement of NO and CO uptake is possible in healthy volunteers and patients with primary hypertension. In these patients capillary blood volume is reduced compared with normal subjects.
CT Check Tags: Female; Human; Male
Adult
*Blood Volume
Breath Tests
Capillaries
Carbon Monoxide: AN, analysis
*Hypertension, Pulmonary: PP, physiopathology

Nitric Oxide: AN, analysis
*Pulmonary Alveoli: PP, physiopathology
Pulmonary Gas Exchange
RN 10102-43-9 (Nitric Oxide); 630-08-0 (Carbon Monoxide)

L42 ANSWER 11 OF 18 MEDLINE
AN 96036517 MEDLINE
DN 96036517
TI Effect of colonic fermentation on respiratory gas exchanges measured in the postabsorptive state.
AU Heresbach D; Flourie B; Briet F; Achour L; Rambaud J C; Messing B
CS INSERM U290, Hopital Saint-Lazare Paris, France..
SO AMERICAN JOURNAL OF CLINICAL NUTRITION, (1995 Nov) 62 (5) 973-8. Journal code: 3EY. ISSN: 0002-9165.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199601
AB To assess the effect of colonic fermentation on respiratory gas exchanges, six methane-nonproducing healthy volunteers ingested in the postabsorptive state 1 wk apart either 90 mL lactulose syrup containing 60 g lactulose, 4 g lactose, and 7 g galactose or the same solution but without lactulose (control solution). Six patients with short bowel and remnant colon (SBS) also ingested 90 mL lactulose syrup. Carbon dioxide production (VCO2), oxygen consumption (VO2), respiratory quotient (RQ), and hydrogen excreted in **breath** were **measured** basally and for 4 h after the ingestion of solutions. In healthy volunteers within 4 h after ingestion of the control solution, VCO2 and the RQ decreased whereas VO2 remained unchanged. In contrast, in healthy volunteers and patients with SBS, VCO2 and the RQ increased after lactulose ingestion, whereas VO2 did not change. The increase in VCO2 appeared to be accounted for mainly by bacterial production of carbon dioxide and was significantly related to breath-hydrogen concentration ($r = 0.56$, $P < 0.02$ for healthy subjects; $r = 0.59$, $P < 0.01$ for SBS subjects). A breath-hydrogen test should be performed in conjunction with indirect calorimetry to determine whether colonic fermentation is taking place and, if so, to correct appropriately the VCO2 value in calorimetric equations.
CT Check Tags: Female; Human; Male
Adult
Basal Metabolism
Breath Tests
Calorimetry, Indirect
Carbon Dioxide: AN, analysis
Carbon Dioxide: ME, metabolism
*Colon: ME, metabolism
*Dietary Carbohydrates: ME, metabolism
Fermentation: PH, physiology
Hydrogen: AN, analysis
Hydrogen: ME, metabolism
*Intestinal Absorption: PH, physiology
Lactulose: ME, metabolism
Middle Age
Oxidation-Reduction
Oxygen Consumption

***Pulmonary Gas Exchange: PH, physiology**
*Short Bowel Syndrome: ME, metabolism
RN 124-38-9 (Carbon Dioxide); 1333-74-0 (Hydrogen); 4618-18-2 (Lactulose)
CN 0 (Dietary Carbohydrates)

L42 ANSWER 12 OF 18 MEDLINE
AN 95111584 MEDLINE
DN 95111584
TI Measurement of 13CO2 in expired air as an index of compliance to a high carbohydrate diet naturally enriched in 13C.
AU Gay L J; Schutz Y; DiVetta V; Schneiter P; Tappy L; Jequier E
CS Institute of Physiology, Faculty of Medicine, Lausanne, Switzerland.
SO INTERNATIONAL JOURNAL OF OBESITY AND RELATED METABOLIC DISORDERS, (1994 Sep) 18 (9) 591-5.
Journal code: BTX.
CY ENGLAND: United Kingdom
DT (CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199504
AB The aim of this study was to determine whether **breath** 13CO2 **measurements** could be used to assess the compliance to a diet containing carbohydrates naturally enriched in 13C. The study was divided into two periods: Period 1 (baseline of 4 days) with low 13C/12C ratio carbohydrates. Period 2 (5 days) isocaloric diet with a high 13C/12C ratio (corn, cane sugar, pineapple, millet) carbohydrates. Measurements were made of respiratory gas exchange by indirect calorimetry, urinary nitrogen excretion and breath 13CO2 every morning in post-absorptive conditions, both in resting state and during a 45-min low intensity exercise (walking on a treadmill). The subjects were 10 healthy lean women (BMI 20.4 +/- 1.7 kg/m2, % body fat 24.4 +/- 1.3%), the 13C enrichment of oxidized carbohydrate and breath 13CO2 were compared to the enrichment of exogenous dietary carbohydrates. At rest the enrichment of oxidized carbohydrate increased significantly after one day of 13C carbohydrate enriched diet and reached a steady value (103 +/- 16%) similar to the enrichment of exogenous carbohydrates. During exercise, the 13C enrichment of oxidized carbohydrate remained significantly lower (68 +/- 17%) than that of dietary carbohydrates. The compliance to a diet with a high content of carbohydrates naturally enriched in 13C may be assessed from the **measurement** of **breath** 13CO2 enrichment combined with respiratory gas exchange in resting, postabsorptive conditions.
CT Check Tags: Female; Human
Adult
Body Composition
Breath Tests
Calorimetry, Indirect
***Carbon Dioxide: AN, analysis**
Carbon Isotopes
*Dietary Carbohydrates: AD, administration & dosage
Energy Intake
Energy Metabolism
Exercise: PH, physiology

Exercise Test
Nitrogen: UR, urine
Oxidation-Reduction
Patient Compliance
Pulmonary Gas Exchange
RN 124-38-9 (Carbon Dioxide); 7727-37-9 (Nitrogen)
CN 0 (Carbon Isotopes); 0 (Dietary Carbohydrates)

L42 ANSWER 13 OF 18 MEDLINE
AN 94104381 MEDLINE
DN 94104381
TI Single-**breath** nitric oxide **measurements** in asthmatic patients and smokers.
AU Persson M G; Zetterstrom O; Agrenius V; Ihre E; Gustafsson L E
CS Department of Physiology, Karolinska Institute, Stockholm, Sweden..
SO LANCET, (1994 Jan 15) 343 (8890) 146-7.
Journal code: L0S. ISSN: 0140-6736.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199404
AB Exhaled nitric oxide (NO) concentrations were measured in asthmatic outpatients and in non-smoking and smoking healthy controls. In single exhalations, NO showed a peak suggestive of airway origin in both controls and asthmatic patients. The peak NO concentration was higher in asthmatic patients and lower in smokers than in non-smoking controls ($p < 0.05$). The findings support a role for NO in the host defence response in asthma and suggest that NO measurements can discriminate between different types of lung disorders.
CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Adult
***Asthma: ME, metabolism**
Asthma: PP, physiopathology
Breath Tests
***Nitric Oxide: AN, analysis**
Respiration: PH, physiology
*Smoking: ME, metabolism
Smoking: PP, physiopathology
RN 10102-43-9 (Nitric Oxide)

L42 ANSWER 14 OF 18 MEDLINE
AN 91257509 MEDLINE
DN 91257509
TI Reproducibility of measurements of trace gas concentrations in expired air [see comments].
CM Comment in: Gastroenterology 1992 Feb;102(2):740-1
AU Strocchi A; Ellis C; Levitt M D
CS Research Service, Veterans Affairs Medical Center, Minneapolis, Minnesota..
NC 2 RO1 DK13309-22 (NIDDK)
SO GASTROENTEROLOGY, (1991 Jul) 101 (1) 175-9.
Journal code: FH3. ISSN: 0016-5085.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English

FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199109
AB Measurement of the **pulmonary** excretion of trace **gases** has been used as a simple means of assessing metabolic reactions. End alveolar trace gas concentration, rather than excretory rate, is usually measured. However, the reproducibility of this measurement has received little attention. In 17 healthy subjects, duplicate collections of alveolar air were obtained within 1 minute of each other using a commercially available alveolar air sampler. The concentrations of hydrogen, methane, carbon monoxide, and carbon dioxide were measured. When the subject received no instruction on how to expire into the device, a difference of 28% +/- 19% (1SD) was found between duplicate determinations of hydrogen. Instructing the subjects to avoid hyperventilation or to inspire maximally and exhale immediately resulted in only minor reduction in variability. However, a maximal inspiration held for 15 seconds before exhalation reduced the difference to a mean of 9.6% +/- 8.0%, less than half that observed with the other expiratory techniques. Percentage difference of methane measurements with the four different expiratory techniques yielded results comparable to those obtained for hydrogen. In contrast, percentage differences for carbon monoxide measurements were similar for all expiratory techniques. When normalized to a PCO2 of 5%, the variability of hydrogen **measurements** with the **breath**-holding technique was reduced to 6.8% +/- 4.7%, a value significantly lower than that obtained with the other expiratory methods. This study suggests that attention to the expiratory technique could improve the accuracy of tests using **breath** hydrogen **measurements**.
CT Check Tags: Human; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.
***Breath Tests: MT, methods**
Carbon Dioxide: AN, analysis
Carbon Monoxide: AN, analysis
*Gases: AN, analysis
Hydrogen: AN, analysis
Methane: AN, analysis
Reference Values
Reproducibility of Results
RN 124-38-9 (Carbon Dioxide); 1333-74-0 (Hydrogen); 630-08-0 (Carbon Monoxide); 74-82-8 (Methane)
CN 0 (Gases)

L42 ANSWER 15 OF 18 MEDLINE
AN 90284471 MEDLINE
DN 90284471
TI Recovery of [13C]-bicarbonate as respiratory 13CO2 in parenterally fed infants.
AU Bresson J L; Mariotti A; Narcy P; Ricour C; Sachs C; Rey J
CS Departement de Pediatrie, CNRS UA 1286, Hopital des Enfants Malades, Paris, France.
SO EUROPEAN JOURNAL OF CLINICAL NUTRITION, (1990 Jan) 44 (1) 3-9. Journal code: EJC. ISSN: 0954-3007.
CY ENGLAND: United Kingdom
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)

LA English
FS Priority Journals
EM 199009
AB Ten infants on continuous total parenteral nutrition (TPN) were infused with NaH13CO3 for 6 h in order to assess the amount of 13C recovered as breath 13CO2. Protein intake was 2.8 +/- 0.3 g/kg/d and non-protein energy intake 107 +/- 4 kcal/kg/d (447 +/- 18 kJ/kg/d), provided either as glucose alone or as an isoenergetic glucose-lipid mixture. In the five infants receiving glucose as the sole non-protein energy source, total CO2 production (559 +/- 50 mumol/kg/min), natural 13C abundance of breath CO2 (-11.8 +/- 0.6 delta % versus PDB) and basal 13CO2 production (6.1 +/- 0.6 mumol/kg/min) were higher than in the five infants infused the glucose-lipid mixture (465 +/- 30 mumol/kg/min, P less than 0.02; -16.1 +/- 0.5 delta %, P less than 0.01 and 5.0 +/- 0.3 mumol/kg min, P less than 0.02, respectively). There was a good agreement, in the glucose-infused infants, between the net glucose oxidation rate measured by indirect calorimetry (25.6 +/- 2 g/kg/d) and the glucose oxidation rate **estimated** from the 13C natural abundances of **breath** CO2 and infused substrates (23.5 +/- 3 g/kg/d). Steady state 13C enrichment of breath CO2 was reached in all infants after 120 min infusion and ranged from 11.0 to 21.5 delta % over baseline. Steady state 13C enrichment was negatively related to total CO2 production (r = -0.72; P less than 0.02). In contrast, steady state 13CO2 production in excess of baseline was only correlated to bicarbonate infusion rate (r = 0.95; P less than 0.001).(ABSTRACT TRUNCATED AT 250 WORDS)
CT Check Tags: Human; Support, Non-U.S. Gov't
Bicarbonates: AD, administration & dosage
*Bicarbonates: ME, metabolism
Breath Tests
Calorimetry, Indirect
Carbon: AN, analysis
Carbon: ME, metabolism
Carbon Dioxide: AN, analysis
*Carbon Dioxide: ME, metabolism
Carbon Isotopes
*Food, Formulated
Glucose: AD, administration & dosage
Glucose: ME, metabolism
Infant
Infusions, Intravenous
Oxidation-Reduction
*Parenteral Nutrition, Total
Pulmonary Gas Exchange
Sodium: AD, administration & dosage
*Sodium: ME, metabolism
RN 124-38-9 (Carbon Dioxide); 144-55-8 (Sodium Bicarbonate); 50-99-7 (Glucose); 7440-23-5 (Sodium); 7440-44-0 (Carbon)
CN 0 (Bicarbonates); 0 (Carbon Isotopes)

L42 ANSWER 16 OF 18 MEDLINE
AN 88092910 MEDLINE
DN 88092910
TI **Breath**-by-**breath measurement** of alveolar gas exchange with a slow-response gas analyser.
AU Yamamoto Y; Takei Y; Mokushi K; Morita H; Mutoh Y; Miyashita M

SO MEDICAL AND BIOLOGICAL ENGINEERING AND COMPUTING, (1987 Mar) 25 (2) 141-6.
Journal code: LPN. ISSN: 0140-0118.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
EM 198804
CT Check Tags: Human
***Breath Tests: MT, methods**
Carbon Dioxide: AN, analysis
Models, Biological
Oxygen: AN, analysis
***Pulmonary Gas Exchange**
RN 124-38-9 (Carbon Dioxide); 7782-44-7 (Oxygen)

L42 ANSWER 17 OF 18 MEDLINE
AN 83205334 MEDLINE
DN 83205334
TI Quantification of the effect of gas exchange on the slope of phase III.
AU Cormier Y; Belanger J
SO BULLETIN EUROPEEN DE PHYSIOPATHOLOGIE RESPIRATOIRE, (1983 Jan-Feb) 19 (1) 13-6.
Journal code: BGX. ISSN: 0395-3890.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198309
AB It was previously shown that gas exchange could contribute to the rising slope of phase III of the single-**breath** nitrogen (SB-N2) test. This study was done to **quantify** this role. We studied eight normal volunteers with a series of SB-N2 derived tests where the RV gas was progressively changed from room air to 90% O2 and 10% N2, by 10% increments in O2 and 10% decreases in N2 concentrations (i.e. room air, 70% N2 30% O2, 60% N2 40% O2, etc.). A similar series of SB-R (single-breath reversed gradients test) derived tests was done. Here the RV contained 100% O2 by previous washout, while the inspired gas was changed by 105 steps from room air to 10% N2 90% O2. We therefore have a situation where dilutional N2 gradients change with the % N2, in either the RV or the inspired gas. However, the alveolar volume loss remains the same for all tests. The mean +/- SD slope of phase III in the SB-N2 series for our eight subjects decreased from 0.87 +/- 0.25 with room air to 0.14 +/- 0.07 with 10% N2 90% O2, while its steepness in the SB-R series decreased from 0.62 +/- 0.23 with the inspired room air to 0.11 +/- 0.06 with the final inspiration being 10% N2 90% O2. From these data, we could calculate that the mean % contribution of gas exchange to the slope of phase III was 10.2%.
CT Check Tags: Human; Support, Non-U.S. Gov't
***Breath Tests**
Carbon Dioxide: AN, analysis
Nitrogen: DU, diagnostic use
Oxygen: AD, administration & dosage
Oxygen: AN, analysis
Pulmonary Diffusing Capacity
***Pulmonary Gas Exchange**

Residual Volume
Total Lung Capacity
RN 124-38-9 (Carbon Dioxide); 7727-37-9 (Nitrogen); 7782-44-7 (Oxygen)

L42 ANSWER 18 OF 18 MEDLINE
AN 82097811 MEDLINE
DN 82097811
TI **Breath**-by-**breath measurement** of true alveolar gas exchange.
AU Beaver W L; Lamarra N; Wasserman K
SO JOURNAL OF APPLIED PHYSIOLOGY: RESPIRATORY, ENVIRONMENTAL AND EXERCISE PHYSIOLOGY, (1981 Dec) 51 (6) 1662-75.
Journal code: HAL. ISSN: 0161-7567.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198205
AB A method has been developed for on-line **breath**-by-**breath calculation** of alveolar gas exchange by correcting the gas exchange measured at the mouth for changes in **lung gas** stores. The corrections are applied to the total **lung gas** exchange, which is found by directly subtracting expired from inspired volume of each gas. Corrections are made for both breath-to-breath changes in lung volumes and changes in alveolar **gas** concentrations. The **lung** volume correction term has the effect of reducing the large error sensitivity of O2 exchange that has, in the past, resulted from direct determination by total **lung gas** exchange. Error each gas. Corrections are made for both breath-to-breath changes in lung volumes and changes in alveolar **gas** concentrations. The **lung** volume correction term has the effect of reducing the large error sensitivity of O2 exchange that has, in the past, resulted from direct determination by total **lung gas** exchange. Error each gas. Corrections are made for both breath-to-breath changes in lung volumes and changes in alveolar **gas** concentrations. The **lung** volume correction term has the effect of reducing the large error sensitivity of O2 exchange that has, in the past, resulted from direct determination by total **lung gas** exchange. Error sensitivity analysis shows that the effect of inaccuracies due to errors in measuring gas flow or gas concentrations are similar in magnitude to those in the open-circuit method that has traditionally been used. The algorithm for alveolar gas exchange has been implemented in a computer program for on-line respiratory analysis alongside the open-circuit calculation of gas exchange at the mouth that has been used in out laboratory. By use of several experimental studies, it is shown that there are very apparent **breath-to-breath** differences between the gas exchange **measured** by the two methods. During metabolic and respiratory transients, these differences often have significant influence on interpretation of the underlying physiology.
CT Check Tags: Human
***Breath Tests**
Carbon Dioxide: AN, analysis
Functional Residual Capacity

Lung Volume Measurements
Mathematics
Oxygen: AN, analysis
*Pulmonary Alveoli: ME, metabolism
*Respiration
*Respiratory Function Tests: MT, methods
Time Factors
RN 124-38-9 (Carbon Dioxide); 7782-44-7 (Oxygen)

=> d 144 1-5 all

L44 ANSWER 1 OF 5 MEDLINE
AN 1998071483 MEDLINE
DN 98071483
TI Surfactant replacement therapy improves ventilation inhomogeneity in infants with respiratory distress syndrome.
AU Sandberg K L; Lindstrom D P; Sjoqvist B A; Parker R A; Cotton R B
CS Gothenburg University, Department of Pediatrics, Sweden.
SO PEDIATRIC PULMONOLOGY, (1997 Nov) 24 (5) 337-43.
Journal code: OWH. ISSN: 8755-6863.
CY United States
DT (CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199803
EW 19980302
AB Surfactant deficiency in newborn infants with hyaline membrane disease (HMD) reduces peripheral airway stability, leading to lung atelectasis, inhomogeneity of distribution of ventilation, ventilation/perfusion mismatch, and hypoxemia. The aim of this study was to evaluate the immediate effect of exogenous surfactant treatment on ventilation inhomogeneity (VIH) in infants with HMD. Homogeneity of ventilation was measured repeatedly in ten infants (median gestational age 30 weeks and birthweight 1.50 kg) after Exosurf, and in six infants (median gestational age 30 weeks and birthweight 1.42 kg) after Survanta treatment. Lung function was measured before and 0.5, 2, and 6 hours after administration of a single dose of surfactant. The multiple **breath** nitrogen washout method was used to **measure** the time pattern of nitrogen elimination from the lungs. VIH was evaluated by using both a compartmental lung model and a model-independent moment analysis. The two-compartment lung model was found to dominate before surfactant treatment, while a single-compartment model (implying homogeneous ventilation) fitted the washout data best 6 hours after Exosurf treatment ($P < 0.01$). The same pattern occurred 2 hours after Survanta administration. Moment analysis confirmed the reduction in VIH by both surfactants. This study supports the hypothesis that the improved oxygenation after surfactant treatment in infants with HMD results from a reduction in VIH and an increase in functional residual capacity (FRC).
CT Check Tags: Comparative Study; Human; Support, Non-U.S. Gov't
Analysis of Variance
Breath Tests
Double-Blind Method
Drug Combinations

*Fatty Alcohols: TU, therapeutic use
Infant, Newborn
Linear Models
Nitrogen: AN, analysis
*Polyethylene Glycols: TU, therapeutic use
Positive-Pressure Respiration
Pulmonary Gas Exchange: DE, drug effects
*Pulmonary Surfactants: TU, therapeutic use
*Pulmonary Ventilation: DE, drug effects
*Respiratory Distress Syndrome: DT, drug therapy
Respiratory Distress Syndrome: PP, physiopathology
RN 108778-82-1 (beractant); 7727-37-9 (Nitrogen); 99732-49-7 (Exosurf)
CN 0 (Drug Combinations); 0 (Fatty Alcohols); 0 (Polyethylene Glycols); 0 (Pulmonary Surfactants)

L44 ANSWER 2 OF 5 MEDLINE
AN 97427126 MEDLINE
DN 97427126
TI A method to evaluate upper airway mechanics following intervention in snorers.
AU Woodson B T; Feroah T; Connolly L A; Toohill R J
CS Department of Otolaryngology and Human Communication, Medical College of Wisconsin, Milwaukee, USA.
SO AMERICAN JOURNAL OF OTOLARYNGOLOGY, (1997 Sep-Oct) 18 (5) 306-14. Journal code: 32W. ISSN: 0196-0709.
CY United States
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199801
AB PURPOSE: To describe a method that measures multisegment upper airway changes following intervention for snoring and obstructive apnea that controls for physiological fluctuations during sleep. PATIENTS AND METHODS: Retropalatal, retroglossal, and retrohyoid airway segments were evaluated before and after application of an oral appliance (OA) in four snoring subjects. Twelve airway segments were evaluated. Physiological fluctuations during sleep were controlled with variably applied nasal continuous positive pressure (CPAP), benzodiazepam-induced sleep, and obtaining **measures** at zero flow on the first test **breath**. Airway area was **measured** endoscopically. RESULTS: The methodology identified that following intervention with an OA, maximum retroglossal airway size increased 23.3% +/- 7.5% ($P < .05$) and retrohyoid size decreased -63.5% +/- 16.0% ($P < .05$). No changes in retropalatal area (-2.5% +/- 3.0%) or closing pressure were observed. The level of primary obstruction shifted inferiorly in one patient. Airway measures prior to intervention showed small alterations of applied pressure (1 cm H2O) changed retropalatal and retroglossal area an average of 10% +/- 0.9%/cm H2O. CONCLUSION: The mechanical effects of limited airway intervention can be measured with a hypotonic, pressure-controlled methodology. At small airway areas, the airway is highly collapsible and airway size fluctuates. Small changes in applied or physiological forces may alter the airway as significantly as the effects of the intervention being evaluated. The hypotonic upper airway method provides a method to control airway collapse and evaluate interventions, such as OA or surgery,

for snoring and obstructive sleep apnea syndrome.
CT Check Tags: Comparative Study; Human
Biomechanics
Breath Tests
Orthodontic Appliances
Positive-Pressure Respiration
*Pulmonary Ventilation
Sleep Apnea Syndromes: SU, surgery
*Snoring: SU, surgery
Snoring: TH, therapy

L44 ANSWER 3 OF 5 MEDLINE
AN 96035495 MEDLINE
DN 96035495
TI Effects of nasal positive-pressure hyperventilation on the glottis in normal awake subjects.
AU Jounieaux V; Aubert G; Dury M; Delguste P; Rodenstein D O
CS Pneumology Unit, Cliniques Universitaires Saint Luc, Universite Catholique de Louvain, Brussels, Belgium..
SO JOURNAL OF APPLIED PHYSIOLOGY, (1995 Jul) 79 (1) 176-85.
Journal code: HEG. ISSN: 8750-7587.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199601
AB We have recently observed obstructive apneas during nasal intermittent positive-pressure ventilation (nIPPV) and suggested that they were due to hypocapnia-induced glottic closure. To confirm this hypothesis, we studied seven healthy subjects and submitted them to nIPPV while their glottis was continuously **monitored** through a fiber-optic bronchoscope. During wakefulness, we **measured breath** by **breath** the widest inspiratory angle formed by the vocal cords at the anterior commissure along with several other indexes. Mechanical ventilation was progressively increased up to 30 l/min. In the absence of diaphragmatic activity, increases in delivered minute ventilation resulted in progressive narrowing of the vocal cords, with an increase in inspiratory resistance and a progressive reduction in the percentage of the delivered tidal volume effectively reaching the lungs. Adding CO2 to the inspired gas led to partial widening of the glottis in two of three subjects. Moreover, activation of the diaphragmatic muscle was always associated with a significant inspiratory abduction of the vocal cords. Sporadically, complete adduction of the vocal cords was directly responsible for obstructive laryngeal apneas and cyclic changes in the glottic aperture resulted in waxing and waning of tidal volume. We conclude that in awake humans passive ventilation with nIPPV results in vocal cord adduction that depends partly on hypocapnia, but our results suggest that other factors may also influence glottic width.
CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Adult
Diaphragm: PP, physiopathology
***Glottis: PP, physiopathology**
Hypercapnia: PP, physiopathology
*Hyperventilation: PP, physiopathology
*Nose

***Positive-Pressure Respiration**
Reference Values

L44 ANSWER 4 OF 5 MEDLINE
AN 95313860 MEDLINE
DN 95313860
TI **Measurement** of tidal flow using a transit-time ultrasonic **breath analyser.**
AU Williams E M; Burrough S L; McPeak H
CS Nuffield Department of Anaesthetics, University of Oxford, Radcliffe Infirmary, UK.
SO ANAESTHESIA, (1995 May) 50 (5) 427-32.
Journal code: 4MC. ISSN: 0003-2409.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199509
AB The ability of the Transit-time Ultrasonic **Breath Analyser** (TUBA, GHG Medical Electronics GMBH, Zurich, Switzerland) to **measure** peak flow and tidal volume in the laboratory was tested using a variety of flow and pressure conditions, chosen to simulate the respiratory patterns of patients receiving mechanical ventilatory support. A stable zero baseline was achieved by acoustic damping of the TUBA flow sensor head. A piston pump was used to generate sinusoidal flow pattern, with a peak flow range from 0.1 to 1.51.s-1. The calculated peak flow matched the peak flow measured by the TUBA. The TUBA accurately measured tidal volumes (+/- 10%) delivered using three different flow patterns over a range of volumes from 0.25 to 11. We conclude, that once modified, the TUBA can provide an accurate measurement of peak flow and tidal volume over a range of values likely to be encountered during mechanical ventilation of the lungs.
CT Check Tags: Human; Support, Non-U.S. Gov't
***Breath Tests: IS, instrumentation**
*Peak Expiratory Flow Rate
Positive-Pressure Respiration
Respiration, Artificial
*Tidal Volume
*Ultrasonography: IS, instrumentation

L44 ANSWER 5 OF 5 MEDLINE
AN 86246549 MEDLINE
DN 86246549
TI Gas exchange during mechanical ventilation and spontaneous breathing. Intermittent mandatory ventilation after open heart surgery.
AU Wolff G; Brunner J X; Gradel E
SO CHEST, (1986 Jul) 90 (1) 11-7.
Journal code: D1C. ISSN: 0012-3692.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 198610
AB Pulmonary gas exchange rates in eight patients after open heart surgery were studied during weaning from the ventilator. We

investigated continuous positive pressure ventilation (CPPV), intermittent mandatory ventilation (IMV) and spontaneous breathing with continuous positive airway pressure (CPAP). During each mode of ventilation we measured: CO2 production (VCO2), O2 consumption (VO2), cardiac output (CO), PaO2, Qs/QT and functional residual capacity (FRC). In addition, we **analyzed** in each single **breath**: tidal volume (VT), series dead space volume (Vds), alveolar ventilation, alveolar efficiency for CO2 elimination (alv eff CO2) and end-tidal CO2 concentration (FCO2et). We compared the results of CPPV, IMV and CPAP and the mandatory **breaths** (MB) with the spontaneous **breaths** (SB) **measured** during IMV. CO was low during CPPV, when the patient still deeply sedated; it was increased in IMV and remained constant in the following CPAP period. VCO2 and VO2 did not differ significantly when switching from IMV to CPAP; therefore, work due to breathing seemed not to be reduced by the mandatory breath during IMV. Oxygenation (PaO2, Qs/QT) did not change significantly when switching from one mode to the other. FRC was constant when changing from CPPV to IMV, did not alter within the IMV-cycle and was reduced significantly when switching from IMV to CPAP. Dead space ventilation was reduced in SB (compared to MB). The latter result is discussed on the basis of two mechanisms: Vds was reduced and alv eff CO2 was increased. We conclude that compared to CPPV, IMV decreases mean alveolar pressure and reduces dead space ventilation at constant FRC and with constant oxygenation. This may explain why, in the weaning process, IMV makes it possible to start spontaneous breathing very early.

CT Check Tags: Comparative Study; Human; Support, Non-U.S. Gov't
Adult
Aged
Breath Tests
*Cardiac Surgical Procedures
*Intermittent Positive-Pressure Ventilation
Middle Age
Partial Pressure
***Positive-Pressure Respiration**
*Postoperative Care
*Pulmonary Gas Exchange
*Respiration
Respiratory Function Tests

=> d 147 1-20 all

L47 ANSWER 1 OF 20 MEDLINE
AN 97103867 MEDLINE
DN 97103867
TI [Transjugular intrahepatic portosystemic shunt (TIPS) in the treatment of symptomatic portal hypertension].
Transjugularni intrahepatalni portosystemovy zkrat (TIPS) pri lecbe symptomaticke portalni hypertenze.
AU Krajina A; Hulek P; Elias P; Michl A; Zizka J; Nozicka J; Vanasek T; Lojik M; Niangova I; Volfova M; Pozler O; Erben J; Papik Z; Bures J
CS Radiodiagnosticka klinika, FN Hradec Kralove.
SO CASOPIS LEKARU CESKYCH, (1996 Sep 18) 135 (18) 584-8.
Journal code: CPY. ISSN: 0008-7335.
CY Czech Republic
DT Journal; Article; (JOURNAL ARTICLE)

LA Czech
EM 199703
EW 19970304
AB BACKGROUND: A transjugular intrahepatic portosystemic shunt (TIPS) is the creation of a percutaneous portosystemic anastomosis which is used as an alternative method of surgical portosystemic shunts and endoscopic treatment in the therapy of complications of portal hypertension. The objective of the present work was to summarize experience with TIPS in 100 patients. METHODS AND RESULTS: In 1992-1995 the authors treated 100 patients with symptomatic portal hypertension by TIPS. To create the shunt in 84% patients a spiral Z stent was used, in the remainder a Wallstent. In 86% patients the indication for TIPS was haemorrhage associated with portal hypertension and in 14% refractory ascites. TIPS was implemented in 98% patients. The **pressure** in the portal **vela**
was not reduced on average to 58% of the original value. Haemorrhage was not stopped in one of 7 patients. Haemorrhage from varices reappeared in 7% patients indicated on account of repeated haemorrhage and was always associated with the finding of chronic stenosis of the shunt. The mortality in conjunction with the procedure was 4%, the mortality within 30 days after operation was 8%. Uncontrollable encephalopathy developed in 3% of the patients. Primary patency of the shunt created by the spiral Z stent was 85% after 6 months, after 12 months 72% and thus does not differ from primary patency when Wallstents are used, as reported in the literature. CONCLUSIONS: TIPS is an effective method to reduce the pressure in the portal vein in portal hypertension. The main limiting factor of the method is stenosis of the shunt due to hyperplasia of the neointima. Stenoses of the shunt can be effectively dilated by percutaneous balloon angioplasty.
CT Check Tags: Female; Human; Male
Adolescence
Adult
Aged
Aged, 80 and over
Child
English Abstract
Esophageal and Gastric Varices: ET, etiology
Gastrointestinal Hemorrhage: ET, etiology
Hypertension, Portal: CO, complications
*Hypertension, Portal: SU, surgery
Middle Age
*Portasystemic Shunt, Transjugular Intrahepatic
Portasystemic Shunt, Transjugular Intrahepatic: MO, mortality
Postoperative Complications

L47 ANSWER 2 OF 20 MEDLINE
AN 97048532 MEDLINE
DN 97048532
TI Prolonged active glottic closure after barbiturate-induced respiratory arrest in lambs.
AU Praud J P; Kianicka I; Diaz V; Leroux J F; Dalle D
CS Department of Pediatrics, Faculty of Medicine, University of Sherbrooke, Quebec, Canada.. jp.praud@courrier.USherb.ca
SO RESPIRATION PHYSIOLOGY, (1996 Jul) 104 (2-3) 221-9.
Journal code: R88. ISSN: 0034-5687.
CY Netherlands

DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199704
EW 19970404
AB We recently showed that the glottis is actively closed throughout post-hyperventilation, hypocapnic central apnea in lambs. The present study was designed to test whether the glottis is also closed in non-hypocapnic central apnea. Twenty-seven lambs aged 2 to 30 days were intravenously injected with 325 mg of sodium pentobarbital, so as to obtain breathing arrest. Airflow was recorded via a facial mask and pneumotachograph, along with the electromyographic activity (EMG) of the thyroarytenoid muscle (TA, a glottic adductor). With the onset of apnea, continuous TA EMG appeared in a few seconds and rose rapidly. Brief inspiratory gasps were observed in eight lambs, and TA EMG was abruptly inhibited for the exact duration of the gasps. The continuous TA EMG then disappeared after 115 to 230 sec. We conclude that the glottis is actively closed during fatal non-hypocapnic central apnea in lambs. Our data suggest that active glottic closure occurs with major depression of central inspiratory drive.
CT Check Tags: Animal; Support, Non-U.S. Gov't
Abdominal Muscles: IR, innervation
Abdominal Muscles: PH, physiology
Aging: PH, physiology
Animals, Newborn
Apnea: CI, chemically induced
Apnea: PP, physiopathology
Electrodes, Implanted
Electromyography
***Glottis: PP, physiopathology**
Heart Arrest: CI, chemically induced
*Heart Arrest: PP, physiopathology
Laryngeal Muscles: IR, innervation
Laryngeal Muscles: PH, physiology
Lung Volume Measurements
*Pentobarbital
Positive-Pressure Respiration
Respiratory Function Tests
Respiratory Mechanics: DE, drug effects
Respiratory Mechanics: PH, physiology
Respiratory Muscles: PH, physiology
Sheep
RN 76-74-4 (Pentobarbital)

L47 ANSWER 3 OF 20 MEDLINE
AN 96035496 MEDLINE
DN 96035496
TI Effects of nasal positive-pressure hyperventilation on the glottis in normal sleeping subjects.
AU Jounieaux V; Aubert G; Dury M; Delguste P; Rodenstein D O
CS Pneumology Unit, Cliniques Universitaires Saint Luc, Universite Catholique de Louvain, Brussels, Belgium..
SO JOURNAL OF APPLIED PHYSIOLOGY, (1995 Jul) 79 (1) 186-93. Journal code: HEG. ISSN: 8750-7587.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)

LA English
FS Priority Journals
EM 199601
AB We have previously observed that, in normal awake subjects passively hyperventilated with intermittent positive-pressure ventilation delivered through nasal access (nIPPV), the glottis could interfere with the ventilation. We report on data obtained in the same subjects during stable sleep. In all cases, the glottis was continuously observed through a fiber-optic bronchoscope, and other indexes were also continuously recorded. Mechanical ventilation was progressively increased up to 30 l/min. We have observed during passive nIPPV in stable sleep that increases in delivered minute ventilation (VEd) resulted in progressive narrowing of the glottic aperture, with increases in inspiratory resistance and progressive reductions in the percentage of the delivered tidal volume effectively reaching the lungs. For a given level of VEd, comparisons showed that the glottis was significantly narrower during sleep than during wakefulness and that the glottis was significantly narrower during stage 2 than during stages 3/4 non-rapid-eye-movement sleep. Moreover, when CO2 is added to the inspired air, glottic aperture increased in five of nine trials without changes in sleep stage. We also observed a significant negative correlation between glottic width and the VED, independent of the CO2 level. We conclude that during nIPPV glottis narrowing results in a decrease in the proportion of the delivered tidal volume reaching the lungs.
CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Adult
Apnea: PP, physiopathology
Carbon Dioxide
***Glottis: PP, physiopathology**
Hypercapnia: PP, physiopathology
*Hyperventilation: PP, physiopathology
*Nose
***Positive-Pressure Respiration**
Reference Values
Respiration
*Sleep
Sleep Stages
Tidal Volume
Wakefulness
RN 124-38-9 (Carbon Dioxide)

L47 ANSWER 4 OF 20 MEDLINE
AN 95118466 MEDLINE
DN 95118466
TI [Velopharyngeal closure in adolescents after repair of cleft lip, jaw, palate or isolated cleft palate].
Velopharyngealer Abschluss bei Jugendlichen nach Verschluss einer Lippen-Kiefer-Gaumen- oder isolierten Gaumenspalte.
AU Proschel U; Wohlleben U; Mussig D; Eysholdt U
CS Abteilung f. Phoniatrie und Padaudiologie, Univ.-HNO-Klinik Erlangen.
SO LARYNGO- RHINO- OTOLOGIE, (1994 Nov) 73 (11) 603-8.
Journal code: AB7. ISSN: 0935-8943.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)

LA German
FS Priority Journals
EM 199504
AB We examined two groups of teenagers (between 13 and 21 years of age) who had been surgically treated as small children for congenital cheilognathouranoschisis or cleft palate. A group of 62 teenagers had been treated by the Dept. of Orthodontics at the University of Erlangen-Nuremberg, the other group of 61 by the Dept. of Orthodontics at the University of Rostock. There were differences between the two departments in sequence and time of the surgical closure as well as in the frequence of velopharyngoplasties. The velopharyngeal closure was examined in all patients by means of a flexible fibre endoscope which was pushed forward endonasally up to the choanae. Simultaneously we judged the audibility of the nasal perflation while pronouncing /k/. A residual gap during articulation of /k/ with clearly audible or alternately clearly and discreetly audible nasal perflation was noted in 8 subjects in Erlangen and 14 subjects in Rostock. In subjects whose velum moved only anterior-posteriorly, closure was likely to be less good than in those with a circular **closing** mechanism of **velum** and lateral and/or posterior parts of the pharyngeal musculature. In rare cases we found a good velopharyngeal closure in spite of a large gap between the velum and the posterior pharyngeal wall at rest. This was the case when the velum moved more against the upper than the posterior wall of the nasopharynx. Velopharynxplasty did not reduce nasal airflow in case of insufficient function of the velar muscles. Differences in the mode of velopharyngeal closure might be due to statistically significant regional differences in skull structure.(ABSTRACT TRUNCATED AT 250 WORDS)
CT Check Tags: Female; Human; Male
Adolescence
Adult
Cephalometry
*Cleft Lip: SU, surgery
*Cleft Palate: SU, surgery
English Abstract
Follow-Up Studies
Postoperative Complications: ET, etiology
Postoperative Complications: SU, surgery
*Velopharyngeal Insufficiency: ET, etiology
Velopharyngeal Insufficiency: SU, surgery

L47 ANSWER 5 OF 20 MEDLINE
AN 95002029 MEDLINE
DN 95002029
TI Pre-speech in children with cleft lip and palate or cleft palate only: phonetic analysis related to morphologic and functional factors [see comments].
CM Comment in: Cleft Palate Craniofac J 1995 Jul;32(4):353
AU Lohmander-Agerskov A; Soderpalm E; Friede H; Persson E C; Lilja J
CS Department of Logopedics and Phoniatrics, Sahlgrenska Hospital, Goteborg, Sweden.
SO CLEFT PALATE-CRANIOFACIAL JOURNAL, (1994 Jul) 31 (4) 271-9. Journal code: A0R. ISSN: 1055-6656.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English

FS Dental Journals; Priority Journals
EM 199501
AB Pre-speech in 35 children with clefts of the lip and palate or palate only were analyzed for place and manner of articulation. Transcriptions were made from tape recorded babbling sequences. Two children without clefts were used as reference. All of the children with clefts were treated according to a regimen of early surgical repair of the **velum** cleft and delayed **closure** of the cleft in the hard palate. The frequency of selected phonetic features was calculated. Correlations between phonetic/perceptual and functional and morphological factors were tested. Supraglottal articulation dominated among all the children indicating a sufficient velopharyngeal mechanism. The results also showed correlations between cleft type and place of articulation. Anteriorly placed sounds (i.e., bilabial, dental, and alveolar sounds) occurred frequently among the children with cleft palate only and in the noncleft children. In children with cleft lip and palate, posteriorly placed articulations predominated. It was postulated that early intervention may have a positive effect on articulatory development.
CT Check Tags: Comparative Study; Female; Human; Male; Support, Non-U.S. Gov't
Age Factors
Articulation Disorders: ET, etiology
*Articulation Disorders: PP, physiopathology
Child
Child Language
Cleft Lip: CO, complications
*Cleft Lip: PP, physiopathology
Cleft Lip: SU, surgery
Cleft Palate: CO, complications
*Cleft Palate: PP, physiopathology
Cleft Palate: SU, surgery
Infant
Palatal Obturators
Palate, Soft: PP, physiopathology
*Phonetics
Physical Stimulation
Reproducibility of Results
Tape Recording
Time Factors

L47 ANSWER 6 OF 20 MEDLINE
AN 94366164 MEDLINE
DN 94366164
TI Physiological assessment of speech and voice production of adults with hearing loss.
AU Higgins M B; Carney A E; Schulte L
CS Boys Town National Research Hospital, Omaha, NE.
NC P60DC00982 (NIDCD)
SO JOURNAL OF SPEECH AND HEARING RESEARCH, (1994 Jun) 37 (3) 510-21. Journal code: K6F. ISSN: 0022-4685.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199412

AB The purpose of this investigation was to study the impact of hearing loss on phonatory, velopharyngeal, and articulatory functioning using a comprehensive physiological approach. Electroglottograph (EGG), nasal/oral air flow, and intraoral air pressure signals were recorded simultaneously from adults with impaired and normal hearing as they produced syllables and words of varying physiological difficulty. The individuals with moderate-to-profound hearing loss had good to excellent oral communication skills. Intraoral **pressure**, nasal air flow, durations of lip, **velum**, and vocal fold articulations, estimated subglottal **pressure**, mean phonatory air flow, fundamental frequency, and EGG abduction quotient were compared between the two subject groups. Data from the subjects with hearing loss also were compared across aided and unaided conditions to investigate the influence of auditory feedback on speech motor control. The speakers with hearing loss had significantly higher intraoral pressures, subglottal pressures, laryngeal resistances, and fundamental frequencies than those with normal hearing. There was notable between-subject variability. All of the individuals with profound hearing loss had at least one speech/voice physiology measure that fell outside of the normal range, and most of the subjects demonstrated unique clusters of abnormal behaviors. Abnormal behaviors were more evident in the phonatory than articulatory or velopharyngeal systems and were generally consistent with vocal fold hyperconstriction. There was evidence from individual data that vocal fold posturing influenced articulatory timing. The results did not support the idea that the speech production skills of adults with moderate-to-profound hearing loss who are good oral communicators deteriorate when there are increased motoric demands on the velopharyngeal and phonatory mechanism. Although no significant differences were found between the aided and unaided conditions, 7 of 10 subjects showed the same direction of change for subglottal pressure, intraoral pressure, nasal air flow, and the duration of lip and vocal fold articulations. We conclude that physiological assessments provide important information about the speech/voice production abilities of individuals with moderate-to-profound hearing loss and are a valuable addition to standard assessment batteries.

CT Check Tags: Comparative Study; Female; Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Adult
Audiometry, Pure-Tone
Hearing Aids
*Hearing Disorders: CO, complications
Hearing Disorders: DI, diagnosis
Hearing Disorders: RH, rehabilitation
Middle Age
Observer Variation
Phonetics
Pulmonary Ventilation
Sex Factors
*Speech Disorders: CO, complications
*Speech Disorders: DI, diagnosis
Speech Disorders: PP, physiopathology
Speech Intelligibility
Speech Production Measurement
Vocal Cords: PP, physiopathology
*Voice Disorders: CO, complications

Voice Disorders: PP, physiopathology

L47 ANSWER 7 OF 20 MEDLINE
AN 94341538 MEDLINE
DN 94341538
TI [Standardization of the data reported in nasopharyngeal and fluoroscopy study of the velopharyngeal sphincter]. Estandarizacion de los datos reportados en estudios de nasofaringoscopia y fluoroscopia del esfinter velofaringeo.
AU Hernandez Lopez X; Marquez Avila C; Romero Fernandez F; Tarasco Michel M; Ysunza Rivera A; Tarasco Camino S; Meca y Sen M; Perez Contreras R B; Puente Gonzalez A
CS Hospital General Manuel Gea Gonzalez, Tlalpan..
SO GACETA MEDICA DE MEXICO, (1993 Jan-Feb) 129 (1) 27-33. Ref: 13
Journal code: FFF. ISSN: 0016-3813.
CY Mexico
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA Spanish
EM 199411
AB There is a certain global awareness to unify the reports of the findings with the Fiber Optic Endoscopy and The Fluoroscopy in the Velopharyngeal Sphincter. The evaluation must be made by specialists. Nasopharyngoscopy: The required equipment is the nasopharyngoscope with a source of light. A videotape is desirable although not necessary. The report must be descriptive and should arrive at precise conclusions. The following are described: 1) nasal phosae, 2) meatus, 3) the exit orifice of the Eustachian Tube, 4) oropharyx, 5) velopharyngeal sphincter (posterior and lateral pharyngeal walls, and the palatal **velum**), 6) the **closing** pattern (form, separate structure, at rest, and in phonation), and 7) larynx. Fluoroscopy: It is useful to evaluate the lateral pharyngeal walls as well as the level at which the velopharyngela sphincter closes. The fluoroscopy is not required in every combination instance. Nevertheless, when it is used, it must be in complement with the nasopharyngoscopy. The videotape is not indispensable. Frontal, lateral, and basal incidences must always be performed.
CT Check Tags: Human
English Abstract
Fluoroscopy
*Palate, Soft: PH, physiology
*Pharynx: PH, physiology
Reference Values

L47 ANSWER 8 OF 20 MEDLINE
AN 94170655 MEDLINE
DN 94170655
TI Subglottic positive end-expiratory pressure in extubated patients recovering from acute lung injury.
AU Putensen C; Lingnau W; Hormann C; Putensen-Himmer G; Baum M
CS Department of Anaesthesia and Intensive Care Medicine, University of Innsbruck, Austria..
SO CRITICAL CARE MEDICINE, (1994 Jan) 22 (1) 67-73.
Journal code: DTF. ISSN: 0090-3493.

CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199406
AB OBJECTIVE: To examine the glottic function in extubated patients recovering from acute lung injury by simultaneous measurement of airway opening and subglottic airway pressures while patients are breathing at ambient pressure and receiving continuous positive airway pressure by a face mask. DESIGN: Descriptive, prospective study. SETTING: Intensive care unit at a university hospital. PATIENTS: Ten patients who required continuous positive airway pressure of at least 7 cm H2O in order to restore gas exchange after mechanical ventilation for acute lung injury. INTERVENTIONS: Spontaneous breathing at ambient airway pressure and with continuous positive airway pressures of 5 and 10 cm H2O via face mask. MEASUREMENTS AND MAIN RESULTS: Intratracheal pressure, airway opening pressure, and airflow at the airway opening were measured. Breathing at ambient pressure resulted in significantly higher end-expiratory intratracheal pressure than end-expiratory airway opening pressure ($p < .01$). No significant differences between end-expiratory intratracheal pressure and end-expiratory airway opening pressure were observed during breathing with continuous positive airway pressures of 5 and 10 cm H2O. A significant end-expiratory airflow at the airway opening ($p < .01$), observed during ambient pressure breathing, was not detectable while the patient received mask continuous positive airway pressure. The partial pressure of oxygen in the arterial blood (Pao2) increased significantly while patients breathed with 10 cm H2O, but not while patients breathed 5 cm H2O continuous positive airway pressure compared with breathing at ambient pressure ($p < .05$). CONCLUSIONS: Our data imply that patients recovering from acute lung injury create an intratracheal positive end-expiratory pressure by braking the expiratory airflow, probably by glottic narrowing. Despite compensatory glottic narrowing, extubated patients with reduced lung function may benefit from higher levels of continuous positive airway pressure.
CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Adolescence
Adult
Glottis: PH, physiology
*Lung: IN, injuries
***Positive-Pressure Respiration**
Pulmonary Gas Exchange
*Respiration

L47 ANSWER 9 OF 20 MEDLINE
AN 94051250 MEDLINE
DN 94051250
TI The role of gentle ventilation in prevention of subglottic stenosis in the newborn.
AU Gaynor E B; Danoff S J
CS Department of Surgery, Norwalk Hospital, CT..
SO OTOLARYNGOLOGY - HEAD AND NECK SURGERY, (1993 Oct) 109 (4) 701-6. Journal code: ON8. ISSN: 0194-5998.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)

LA English
FS Priority Journals
EM 199402
AB Prolonged endotracheal intubation has become the standard of care in most neonatal units for maintenance of mechanical ventilation in the presence of respiratory distress. Unfortunately this approach has become associated with significant complications, including acquired subglottic stenosis. We have successfully used nasal continuous positive airway pressure to avoid or decrease the incidence and duration of endotracheal intubation. With use of this technique we have been able to significantly reduce sequelae (i.e., bronchopulmonary dysplasia, chronic lung disease, intraventricular hemorrhage) and have not encountered subglottic stenosis in more than 200 cases. The use of this technique may be of significant value in preventing or reducing the incidence of acquired subglottic stenosis.
CT Check Tags: Human
Glottis
Incidence
Infant, Low Birth Weight
Infant, Newborn
Infant, Premature
Infant, Premature, Diseases: EP, epidemiology
Infant, Premature, Diseases: ET, etiology
Infant, Premature, Diseases: PC, prevention & control
Laryngostenosis: EP, epidemiology
Laryngostenosis: ET, etiology
*Laryngostenosis: PC, prevention & control
Pneumothorax: EP, epidemiology
Pneumothorax: ET, etiology
Positive-Pressure Respiration: AE, adverse effects
Positive-Pressure Respiration: MT, methods
*Respiration, Artificial
Respiration, Artificial: AE, adverse effects
Respiration, Artificial: MT, methods
Respiratory Distress Syndrome: CO, complications
Respiratory Distress Syndrome: TH, therapy

L47 ANSWER 10 OF 20 MEDLINE
AN 93073484 MEDLINE
DN 93073484
TI Continuous positive airway pressure as a promoter of laryngospasm during halothane anesthesia.
AU Silva D A; Sanders I
CS Department of Anesthesiology, Mount Sinai School of Medicine, City University of New York, New York..
SO ANNALS OF OTOLOGY, RHINOLOGY AND LARYNGOLOGY, (1992 Nov) 101 (11) 893-6.
Journal code: 5Q2. ISSN: 0003-4894.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199302
AB Twenty mongrel dogs were anesthetized with halothane 2.0%, 1.25%, 0.94%, and 0.63% in oxygen. Thyroarytenoid (TA) and posterior cricoarytenoid (PCA) electromyography (EMG) tracings were recorded

with the animal at rest, following mechanical irritation of the glottis, and during 20 mm Hg continuous positive airway pressure (CPAP) following either airway occlusion or hyperventilation. Adductor laryngospasm was defined as continuous tonic TA EMG activity, silent PCA EMG, and vocal cord adduction. Abductor laryngospasm was defined as continuous tonic PCA EMG activity, silent TA EMG, and vocal cord abduction. Combined laryngospasm was defined as continuous tonic PCA and TA EMG activity, with variable vocal cord position. The incidence of adductor laryngospasm following mechanical irritation was 30% to 50%. The combined incidence of laryngospasm during application of CPAP following airway occlusion or hyperventilation was 25% to 50%, and differed from the incidence of irritation-induced adductor laryngospasm by 5% or less at the same anesthetic level. Continuous positive airway pressure appears to be a stimulant of laryngeal muscle spasm comparable to mechanical irritation of the glottis.

CT Check Tags: Animal; Comparative Study
Airway Obstruction: PP, physiopathology
*Anesthesia, Inhalation
Biomechanics
Disease Models, Animal
Dogs
Glottis
*Halothane
Hyperventilation: PP, physiopathology
*Laryngismus: ET, etiology
Physical Stimulation
***Positive-Pressure Respiration: AE, adverse effects**
RN 151-67-7 (Halothane)

L47 ANSWER 11 OF 20 MEDLINE
AN 92036596 MEDLINE
DN 92036596
TI Use of the electroglottograph for measurement of temporal aspects of the swallow: preliminary observations.
AU Perlman A L; Grayhack J P
CS Audiology/Speech Pathology Service, VA Medical Center, Iowa City, Iowa 52246..
SO DYSPHAGIA, (1991) 6 (2) 88-93.
Journal code: DYY. ISSN: 0179-051X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Dental Journals
EM 199202
AB The electroglottograph (EGG) is a non-invasive, electrical impedance device that was developed for observing vocal fold contract during phonation. After a thorough study of the frequency response characteristics of the EGG, we found that the EGG output can be used to identify maximum laryngeal displacement and the duration of laryngeal movement during swallowing. With a small intranasal **pressure** transducer placed beneath the **velum** and the EGG electrodes placed externally on the thyroid cartilage, additional information on the temporal aspects of the swallow can be measured. The EGG has direct clinical application when teaching such techniques as the safe swallow and Mendelsohn maneuver and it is useful as a research technique when using repeated measures designed

to study the swallow reflex.
CT Check Tags: Human; Support, U.S. Gov't, Non-P.H.S.
*Deglutition: PH, physiology
Deglutition Disorders: DI, diagnosis
*Electrophysiology: MT, methods
*Larynx: PH, physiology
Oropharynx: PH, physiology
Pharynx: PH, physiology
Photofluorography
Pressure

L47 ANSWER 12 OF 20 MEDLINE
AN 90336353 MEDLINE
DN 90336353
TI Does continuous positive airway pressure compensate for loss of glottic function during tracheal intubation?.
AU Smith R A; Johnson M; Venus B
CS Department of Anesthesiology, University of South Florida College of Medicine, Tampa 33612..
SO CRITICAL CARE MEDICINE, (1990 Aug) 18 (8) 848-50.
Journal code: DTF. ISSN: 0090-3493.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199011
AB Adult patients with acute lung injury (ALI) exhibit increased PaO2 when receiving continuous positive airway pressure (CPAP). Some have increased PaO2 after extubation. To determine the role a competent glottis played in improving gas exchange, we anesthetized seven rabbits and inserted central venous and carotid artery catheters. After recovery from anesthesia, ALI was induced with oleic acid (0.08 ml/kg). Twenty-four hours later, the animals were sedated and placed in a sling. The pHa and blood gas tensions were measured. The animals were placed supine and were given inhalation anesthesia to facilitate tracheal intubation. A polyethylene catheter was placed slightly distal to the tracheal tube outlet to measure tracheal pressure (PT). Intubated rabbits were repositioned in the sling and were given either zero end-expiratory pressure (ZEEP) or 5 cm H2O CPAP, alternately. After the animals had breathed room air for 60 min, pHa and blood gas tensions were again measured, and PT was recorded. Animals were extubated, but the PT catheter was left in place. Data were collected again 60 min later, the catheter was removed, and the animals were returned to their cages. Forty-eight hours after onset of ALI, the protocol was repeated.(ABSTRACT TRUNCATED AT 250 WORDS)
CT Check Tags: Animal; Human; Support, Non-U.S. Gov't
Disease Models, Animal
***Glottis**
Glottis: PH, physiology
*Intubation, Intratracheal
Intubation, Intratracheal: AE, adverse effects
***Positive-Pressure Respiration**
Positive-Pressure Respiration: MT, methods
*Pulmonary Gas Exchange
Rabbits
Respiratory Distress Syndrome, Adult: TH, therapy

L47 ANSWER 13 OF 20 MEDLINE
AN 90186532 MEDLINE
DN 90186532
TI Effects of nasal CPAP on supraglottic and total pulmonary resistance in preterm infants.
AU Miller M J; DiFiore J M; Strohl K P; Martin R J
CS Department of Pediatrics, Rainbow Babies and Childrens Hospital, Case Western Reserve University, Cleveland, Ohio 44106..
NC HL-41814 (NHLBI)
HC-25830 (NHLBI)
HL-02011 (NHLBI)
+
SO JOURNAL OF APPLIED PHYSIOLOGY, (1990 Jan) 68 (1) 141-6.
Journal code: HEG. ISSN: 8750-7587.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199006
AB The effects of continuous positive airway pressure (CPAP) on supraglottic and total pulmonary resistance were determined in 10 healthy premature infants (postconceptional age 34 +/- 2 wk, weight at study 1,628 +/- 250 g). Nasal airflow was measured with a mask pneumotachograph, and pressures in the esophagus and oropharynx were measured with a 5-Fr Millar or fluid-filled catheter. Nasal CPAP between 0 and 5 cmH2O correlated well with oropharyngeal pressure (r = 0.94). Total supraglottic resistance, total pulmonary resistance, and supraglottic resistance in inspiration and expiration were measured on increasing CPAP. Total supraglottic resistance decreased from 46 +/- 29 to 17 +/- 16 cmH2O.l-1.s (P less than 0.005) between 0 and 5 cmH2O CPAP, and a delay in return of resistance to control values was seen as CPAP was reciprocally decreased to 0. CPAP produced a decrease in supraglottic resistance in both inspiration and expiration, from 41 +/- 26 to 14 +/- 9 and from 33 +/- 17 to 10 +/- 6 cmH2O.l-1.s, respectively (P less than 0.01). Total pulmonary resistance also decreased from 161 +/- 40 to 95 +/- 24 cmH2O.l-1.s (P less than 0.01) between 0 and 5 cmH2O CPAP. The decrease in total supraglottic resistance in these infants accounted for 60% of the change in total pulmonary resistance, which occurred on CPAP of 5 cmH2O. We speculate that CPAP may decrease supraglottic resistance directly through mechanical splinting of the airway. This effect of CPAP may be the primary mechanism by which this form of therapy reduces apnea with an obstructive component in premature infants.
CT Check Tags: Human; Support, U.S. Gov't, P.H.S.
*Airway Resistance: PH, physiology
Esophagus: PH, physiology
***Glottis: PH, physiology**
Infant
Infant, Newborn
*Infant, Premature: PH, physiology
*Lung: PH, physiology
Oropharynx: PH, physiology
***Positive-Pressure Respiration**
Pressure

L47 ANSWER 14 OF 20 MEDLINE

AN 86303297 MEDLINE
DN 86303297
TI Changes in velopharyngeal valving with age.
AU Siegel-Sadewitz V L; Shprintzen R J
SO INTERNATIONAL JOURNAL OF PEDIATRIC OTORHINOLARYNGOLOGY, (1986 Apr) 11 (2) 171-82.
Journal code: GS2. ISSN: 0165-5876.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198612
AB Variability of velopharyngeal valving between subjects has been a well established fact since the advent of new techniques for the direct viewing of the velopharyngeal sphincter during speech. Multi-view videofluoroscopy and nasopharyngoscopy have shown that there is variable contribution to velopharyngeal **closure** from the **velum**, the lateral pharyngeal walls, and posterior pharyngeal wall from person to person. However, to date, there has been no evidence to show if velopharyngeal closure remains unchanged within individuals throughout life. The purpose of this investigation was to observe velopharyngeal closure in normal subjects and subjects with cleft palate from prepubertal to postpubertal life (i.e. pre-adenoid involution to post-adenoid involution). Changes in velopharyngeal closure patterns were observed in 60% of the normals studied and 30% of the cleft subjects.
CT Check Tags: Human
Adenoids: PP, physiopathology
Adolescence
*Aging
Child
Child, Preschool
Cleft Palate: PP, physiopathology
Endoscopy
Fluoroscopy
Longitudinal Studies
Movement
*Palate, Soft: PH, physiology
Palate, Soft: PP, physiopathology
*Pharynx: PH, physiology
Pharynx: PP, physiopathology
Puberty
Velopharyngeal Insufficiency: DI, diagnosis

L47 ANSWER 15 OF 20 MEDLINE
AN 85196951 MEDLINE
DN 85196951
TI Emergency management of the infant with an obstructed airway at birth.
AU Sacks L M; Bohannon D S; Wynn R A
SO ANESTHESIOLOGY, (1985 May) 62 (5) 659-61.
Journal code: 4SG. ISSN: 0003-3022.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals

EM 198508
CT Check Tags: Case Report; Female; Human
*Airway Obstruction: CN, congenital
Airway Obstruction: TH, therapy
Glottis
Infant, Newborn
*Infant, Premature, Diseases: TH, therapy
Positive-Pressure Respiration
Respiration, Artificial
*Tracheal Stenosis: CN, congenital
Tracheal Stenosis: TH, therapy
Tracheotomy

L47 ANSWER 16 OF 20 MEDLINE
AN 85157271 MEDLINE
DN 85157271
TI Effect of expiratory loading on glottic dimensions in humans.
AU Brancatisano T P; Dodd D S; Collett P W; Engel L A
SO JOURNAL OF APPLIED PHYSIOLOGY, (1985 Feb) 58 (2) 605-11.
Journal code: HEG. ISSN: 8750-7587.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198507
AB We examined the effects of external mechanical loading on glottic dimensions in 13 normal subjects. When flow-resistive loads of 7, 27, and 48 cmH2O X l-1 X s, measured at 0.2 l/s, were applied during expiration, glottic width at the mid-tidal volume point in expiration (dge) was 2.3 +/- 12, 37.9 +/- 7.5, and 38.3 +/- 8.9% (means +/- SE) less than the control dge, respectively. Simultaneously, mouth pressure (Pm) increased by 2.5 +/- 4, 3.0 +/- 0.4, and 4.6 +/- 0.6 cmH2O, respectively. When subjects were switched from a resistance to a positive end-expiratory pressure at comparable values of Pm, both dge and expiratory flow returned to control values, whereas the level of hyperinflation remained constant. Glottic width during inspiration (unloaded) did not change on any of the resistive loads. There was a slight inverse relationship between the ratio of expiratory to inspiratory glottic width and the ratio of expiratory to inspiratory duration. Our results show noncompensatory glottic narrowing when subjects breathe against an expiratory resistance and suggest that the glottic dimensions are influenced by the time course of lung emptying during expiration. We speculate that the glottic constriction is related to the increased activity of expiratory medullary neurons during loaded expiration and, by increasing the internal impedance of the respiratory system, may have a stabilizing function.
CT Check Tags: Human; Support, Non-U.S. Gov't
Adult
Airway Resistance
Glottis: AH, anatomy & histology
***Glottis: PH, physiology**
Lung Volume Measurements
Positive-Pressure Respiration
Pulmonary Ventilation
*Respiration
Tidal Volume

Time Factors

L47 ANSWER 17 OF 20 MEDLINE
AN 84187495 MEDLINE
DN 84187495
TI [Preglottic jet-ventilation in laser microsurgery. Apropos of 100 cases].
La jet-ventilation pre-glottique dans la mcirochirurgie au laser. A propos de 100 cas.
AU Alcalay A; Abastado M; Dutron C; Rosencher N; Reyt E; Junien-Lavillauroy C
SO JOURNAL FRANCAIS D OTO-RHINO-LARYNGOLOGIE, AUDIOPHONOLOGIE, CHIRURGIE MAXILLO-FACIALE, (1984 Apr) 33 (4) 196-200.
Journal code: I7J. ISSN: 0398-9771.
CY France
DT Journal; Article; (JOURNAL ARTICLE)
LA French
EM 198408
CT Check Tags: Female; Human; Male
Adolescence
Adult
Aged
Anesthesia, General: MT, methods
Child
Child, Preschool
***Glottis**
Infant
*Intermittent Positive-Pressure Ventilation: MT, methods
*Laryngeal Neoplasms: SU, surgery
Laryngoscopy: MT, methods
*Lasers: TU, therapeutic use
*Microsurgery: MT, methods
Middle Age
***Positive-Pressure Respiration: MT, methods**

L47 ANSWER 18 OF 20 MEDLINE
AN 81073438 MEDLINE
DN 81073438
TI Adenoid involution and developing hypernasality in cleft palate.
AU Mason R M; Warren D W
NC DE 04267 (NIDR)
DE 02668 (NIDR)
44P 20831
SO JOURNAL OF SPEECH AND HEARING DISORDERS, (1980 Nov) 45 (4) 469-80.
Journal code: K5Z. ISSN: 0022-4677.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198104
AB Information about the adenoid mass is reviewed, and the phenomenon of gradual development of hypernasality as a result of adenoidal involution is described in two patients selected from a sample of 122 with repaired cleft palate. Three types of radiographically determined **closure** patterns of the **velum** against the adenoid pad are presented. Our clinical experience suggests that the results of aerodynamic studies, completed on a longitudinal

basis, may identify patients who are at risk in maintaining normal resonance balance one year or more in advance of perceptual or radiographic evidence of velopharyngeal incompetency.

CT Check Tags: Female; Human; Male; Support, U.S. Gov't, P.H.S.
Adenoidectomy
Adenoids: AH, anatomy & histology
Adenoids: GD, growth & development
*Adenoids: PA, pathology
Adenoids: PP, physiopathology
Child
*Cleft Palate: SU, surgery
Palate, Soft: PP, physiopathology
*Postoperative Complications
Velopharyngeal Insufficiency: ET, etiology
*Voice Disorders: ET, etiology

L47 ANSWER 19 OF 20 MEDLINE
AN 79084566 MEDLINE
DN 79084566
TI The dynamics of Passavant's ridge in subjects with and without velopharyngeal insufficiency--a multi-view videofluoroscopic study.
AU Glaser E R; Skolnick M L; McWilliams B J; Shprintzen R J
SO CLEFT PALATE JOURNAL, (1979 Jan) 16 (1) 24-33.
Journal code: DB2. ISSN: 0009-8701.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Dental Journals
EM 197905
AB Passavant's ridge was studied in 43 patients via multiview videofluoroscopy incorporating the simultaneous recording of speech. Ratings of the videotapes were made at full speed, in slowmotion, and by stop-framing. The following results were found: (1) Just as there are variable patterns of velopharyngeal closure, there were also variations in the way in which Passavant's ridge is positioned relative to the velum, and in the ridge's subsequent role in velopharyngeal narrowing or closure. (2) The ridge was the primary pharyngeal structure at the level of the **velum** that **closed** or locally narrowed the velopharyngeal portal in 37% of patients. (3) Passavant's ridge usually appeared as a structure encompassing both the lateral and posterior pharyngeal walls, and its presence was usually associated with active lateral pharyngeal wall motion. (4) Passavant's ridge was more prominent when the head was in the hyper-extended rather than the neutral position. (5) Passavant's ridge moved in a highly consistent manner, synchronous with velar movement.

CT Check Tags: Human; Support, U.S. Gov't, P.H.S.
Adolescence
Adult
Child
Child, Preschool
*Cineradiography
Head: AH, anatomy & histology
Palate: AH, anatomy & histology
Palate: PH, physiology
Pharynx: AH, anatomy & histology
*Pharynx: PH, physiology

*Speech
Speech Disorders: PP, physiopathology
*Velopharyngeal Insufficiency: PP, physiopathology

L47 ANSWER 20 OF 20 MEDLINE
AN 69253669 MEDLINE
DN 69253669
TI Experiences with early **closure** of **velum** and later **closure** of hard palate.
AU Fara M; Brousilova M
SO PLASTIC AND RECONSTRUCTIVE SURGERY, (1969 Aug) 44 (2) 134-41. Journal code: P9S. ISSN: 0032-1052.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 196911
CT Check Tags: Female; Human; Male
Age Factors
Child
Child, Preschool
*Cleft Palate: SU, surgery
Methods
Palate
Speech Disorders: PC, prevention & control

=> d l48 1-19 all

L48 ANSWER 1 OF 19 MEDLINE
AN 1998164891 MEDLINE
DN 98164891
TI Comparison of exhaled nitric oxide and cardiorespiratory indices between nasal and oral breathing during submaximal exercise in humans.
AU Yasuda Y; Itoh T; Miyamura M; Nishino H
CS Research Center of Physical Fitness, Sports and Health, Toyohashi University of Technology, Japan.
SO JAPANESE JOURNAL OF PHYSIOLOGY, (1997 Oct) 47 (5) 465-70. Journal code: KON. ISSN: 0021-521X.
CY Japan
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LA English
FS Priority Journals
EM 199805
EW 19980503
AB In order to examine the origin and role of nitric oxide (NO) in exhaled air during exercise, exhaled NO outputs of 8 healthy human subjects were compared using different breathing methods, through the mouth or nose, at two intensities of bicycle exercise. The concentration of NO in the exhaled air and ventilatory gas exchange variables were measured by a chemiluminescence analyzer and a mixing chamber method, respectively. The concentration and total output of NO in the expired air was significantly higher under nasal breathing than under oral breathing for both exercise intensities, whereas no significant difference was observed in cardiorespiratory variables

between them. NO output increased significantly when exercise intensity was increased from unloaded (0 W) to 60 W under nasal breathing, but not under oral breathing. A negative correlation among subjects was found between NO output and minute ventilation in both breathing methods only for unloaded exercise. Data indicate that nasal airways have a large contribution, at least 50% of total NO output in the exhaled air during nasal breathing, but this nasal NO may have no further modulation on respiratory function during submaximal exercise by healthy humans.

CT Check Tags: Comparative Study; Human; Male
Adolescence
Adult
Breath Tests
Carbon Dioxide: ME, metabolism
*Exercise: PH, physiology
Heart Rate: PH, physiology
Hemodynamics: PH, physiology
Least-Squares Analysis
Middle Age
Mouth Mucosa: ME, metabolism
Nasal Cavity: PH, physiology
*Nitric Oxide: ME, metabolism
Oxygen Consumption: PH, physiology
Reference Values
*Respiration: PH, physiology
Respiratory Transport

RN 10102-43-9 (Nitric Oxide); 124-38-9 (Carbon Dioxide)

L48 ANSWER 2 OF 19 MEDLINE
AN 1998157560 MEDLINE
DN 98157560
TI Ventilation heterogeneity is increased in hypocapnic dogs but not pigs.
AU Domino K B; Emery M J; Swenson E R; Hlastala M P
CS Department of Anesthesiology, University of Washington, Seattle 98195-6540, USA.. kdomino@u.washington.edu
NC HL-02507 (NHLBI)
HL-12174 (NHLBI)
SO RESPIRATION PHYSIOLOGY, (1998 Jan) 111 (1) 89-100.
Journal code: R88. ISSN: 0034-5687.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199805
EW 19980502
AB Hypocapnia increases ventilation/perfusion (VA/Q) heterogeneity in dogs, possibly by adversely affecting distribution of ventilation through its effects on collateral ventilation. Because pigs lack collateral ventilation, we compared the effects of hypocapnia on ventilation heterogeneity in pentobarbital-anesthetized, mechanically-ventilated dogs and pigs. Simultaneous multiple breath washouts of helium and nitrogen were used to assess the uniformity of the ventilation distribution by the phase III (SnIII) method. Ventilation heterogeneity was partitioned into two components, e.g. convective-dependent inhomogeneity (cdi) and diffusive-convective-dependent inhomogeneity (dcdi). Pulmonary gas exchange was also

measured in pigs by the multiple inert gas elimination technique. Ventilation heterogeneity was increased (P < 0.01) in hypocapnic dogs. Inspiration of CO2 decreased ventilation heterogeneity by decreasing dcdi (P < 0.01). In contrast, ventilation heterogeneity was not increased in hypocapnic pigs. However, hypocapnia increased VA/Q heterogeneity by 18% (P < 0.05) in pigs. We conclude that hypocapnia increases ventilation heterogeneity in dogs but not in pigs, most likely related to an interspecies difference in collateral ventilation.

CT Check Tags: Animal; Comparative Study; Female; Male; Support, U.S. Gov't, P.H.S.
Analysis of Variance
Breath Tests
*Carbon Dioxide: PH, physiology
Dogs
Helium: AN, analysis
Hemodynamics
*Hypocapnia: PP, physiopathology
Nitrogen: AN, analysis
Positive-Pressure Respiration
Respiratory Transport
*Species Specificity
Swine
*Ventilation-Perfusion Ratio: PH, physiology

RN 124-38-9 (Carbon Dioxide); 7440-59-7 (Helium); 7727-37-9 (Nitrogen)

L48 ANSWER 3 OF 19 MEDLINE
AN 97371496 MEDLINE
DN 97371496
TI Nasal contribution to exhaled nitric oxide during exhalation against resistance or during breath holding.
AU Kharitonov S A; Barnes P J
CS Department of Thoracic Medicine, National Heart and Lung Institute, Imperial School of Medicine, London, UK.
SO THORAX, (1997 Jun) 52 (6) 540-4.
Journal code: VQW. ISSN: 0040-6376.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199710
EW 19971001
AB BACKGROUND: The concentration of nitric oxide (NO) is increased in the exhaled air of patients with inflammation of the airways, suggesting that this may be a useful measurement to monitor inflammation in diseases such as asthma. However, there have been concerns that exhaled NO may be contaminated by the high concentrations of NO derived from the upper airways, and that this may account for differences in reported values of exhaled NO using different techniques. A study was performed, with argon as a tracer, to determine the extent of nasal contamination of exhaled NO using different expiratory manoeuvres. METHODS: Exhaled and nasal NO were measured by a chemiluminescence analyser. Argon (4.8%) was delivered continuously to the nose. Gas was sampled from the posterior oropharynx and argon and carbon dioxide were measured by mass spectrometry at the same time as NO. RESULTS: During a single expiration against a low resistance and during breath holding there

was no evidence for nasal contamination, whereas during exhalation without resistance argon concentration in the oropharynx was increased from 0.91% (95% CI 0.84% to 0.98%) in ambient air to 1.28% (0.9% to 2.24%, p < 0.0001) during a single breath or 2.37% (2.29% to 2.51%, p < 0.0001) during tidal breathing. CONCLUSIONS: Collection of exhaled NO in a reservoir during tidal breathing is likely to be contaminated by NO derived from the nose and this may underestimate any increases in NO derived from the lower respiratory tract in inflammatory diseases. However, with slow expiration against a resistance and created back pressure to close the **soft palate**, there is no contamination of exhaled air which then reflects concentrations of NO in the lower airways.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Adult
Airway Resistance
Argon
Biological Markers: AN, analysis
***Breath Tests: MT, methods**
Chemiluminescence
Nasal Cavity
*Nitric Oxide: AN, analysis
Oropharynx
Spectrum Analysis, Mass

RN 10102-43-9 (Nitric Oxide); 7440-37-1 (Argon)
CN 0 (Biological Markers)

L48 ANSWER 4 OF 19 MEDLINE
AN 97258553 MEDLINE
DN 97258553
TI Determinants of nitric oxide in exhaled gas in the isolated rabbit lung.
AU Carlin R E; Ferrario L; Boyd J T; Camporesi E M; McGraw D J; Hakim T S
CS State University of New York Health Science Center at Syracuse, Department of Surgery, 13210, USA.
SO AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (1997 Mar) 155 (3) 922-7.
Journal code: BZS. ISSN: 1073-449X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199706
EW 19970604
AB Nitric oxide concentrations in the exhaled gas (NOe) increases during various inflammatory conditions in humans and animals. Little is known about the sources and factors that influence NOe. NOe at end expiration was measured by chemiluminescence in an isolated, blood-perfused rabbit lung. The average end-expiratory concentration over 10 breaths was used. The effect of positive end-expiratory pressure (PEEP), flow rate, pH, hypoxia, venous pressure, and flow pulsatility on NOe were determined. At constant blood flow, increasing PEEP from 1 to 5 cm H2O elicited a reproducible increase in NOe from 49 +/- 7 to 53 +/- 8 parts per billion (ppb) (p < 0.05). When blood pH was increased from 7.40 to 7.74 by breathing low CO2 gas, NOe rose from 45 +/- 7 to 55 +/- 7 ppb (p < 0.001). Hypoxia caused a dose-dependent decrease in NOe from 37 +/- 3 during

baseline to 23 +/- 2 during ventilation with 0% O2 ($p < 0.01$). Venous pressure elevation from 0 to 5 and 10 mm Hg decreased NOe from 32 +/- 5, to 26 +/- 5 and 24 +/- 5 ppb, respectively ($p < 0.05$). Switching from steady to pulsatile flow (same man flow) resulted in a small, albeit significant reduction in NOe; 30 +/- 4 to 28 +/- 4 ppb ($p < 0.05$). Changes in flow rate between 200 and 20 ml/min were associated with small changes in NOe; however, when flow was stopped, NOe rose substantially to 56 +/- 6 ppb ($p < 0.05$). The changes in NOe were rapid (1 to 2 min) and reversible. The results suggest that NOe is influenced by ventilatory and hemodynamic variables, pH, and hypoxia. We suggest that caution must be taken when interpreting changes in exhaled NO in humans or experimental animals. Changes in total and regional blood flow, capillary blood volume, ventilation, hypoxia, and pH should not be overlooked.

CT Check Tags: Animal; Support, Non-U.S. Gov't
Anoxia: PP, physiopathology
Blood Pressure: PH, physiology
Breath Tests
Chemiluminescence
Enzyme Inhibitors
Hydrogen-Ion Concentration
*Lung: ME, metabolism
***Nitric Oxide: AN, analysis**
Nitric Oxide: ME, metabolism
Nitroarginine: PD, pharmacology
Perfusion
Positive-Pressure Respiration
Pulsatile Flow: PH, physiology
Rabbits
Regional Blood Flow: PH, physiology
*Respiration: PH, physiology

RN 10102-43-9 (Nitric Oxide); 2149-70-4 (Nitroarginine)
CN 0 (Enzyme Inhibitors)

L48 ANSWER 5 OF 19 MEDLINE
AN 97105221 MEDLINE
DN 97105221
TI Exhaled nitric oxide in paediatric asthma and cystic fibrosis.
AU Lundberg J O; Nordvall S L; Weitzberg E; Kollberg H; Alving K
CS Department of Physiology and Pharmacology, Karolinska Institute, Stockholm, Sweden.
SO ARCHIVES OF DISEASE IN CHILDHOOD, (1996 Oct) 75 (4) 323-6.
Journal code: 6XG. ISSN: 0003-9888.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 199703
AB Nitric oxide (NO) is present in exhaled air of humans. This NO is mostly produced in the upper airways, whereas basal NO excretion in the lower airways is low. Children with Kartagener's syndrome have an almost total lack of NO in nasally derived air, whereas adult asthmatics have increased NO in orally exhaled air. NO excretion was measured in the **nasal cavity** and in orally exhaled air in 19 healthy children, in 36 age matched subjects with asthma, and in eight children with cystic fibrosis. NO levels in orally exhaled air were similar in controls and in children with

cystic fibrosis, at 4.8 (SD 1.2) v 5.8 (0.8) parts per billion (ppb), but were increased in asthmatic children who were untreated or were being treated only with low doses of inhaled steroids (13.8 (2.5) ppb). Nasal NO levels were reduced by about 70% in children with cystic fibrosis compared to controls and asthmatics. Measurements of airway NO release in different parts of the airways may be useful in non-invasive diagnosis and monitoring of inflammatory airway diseases.

CT Check Tags: Comparative Study; Human; Support, Non-U.S. Gov't
Adolescence
Adult
Anti-Inflammatory Agents, Steroidal: AD, administration & dosage
Anti-Inflammatory Agents, Steroidal: TU, therapeutic use
Asthma: DT, drug therapy
*Asthma: ME, metabolism
Breath Tests
Child
Child, Preschool
*Cystic Fibrosis: ME, metabolism
Drug Administration Schedule
Kartagener's Syndrome: ME, metabolism
*Nitric Oxide: AN, analysis
Nose
Pregnenediones: AD, administration & dosage
Pregnenediones: TU, therapeutic use

RN 10102-43-9 (Nitric Oxide); 51333-22-3 (Budesonide)
CN 0 (Anti-Inflammatory Agents, Steroidal); 0 (Pregnenediones)

L48 ANSWER 6 OF 19 MEDLINE
AN 95005002 MEDLINE
DN 95005002
TI Differences in end-tidal carbon dioxide and breathing patterns in ventilator-dependent patients using pressure support ventilation.
AU Pierce J D; Gerald K
CS University of Kansas School of Nursing, Kansas City 66160-7502..
SO AMERICAN JOURNAL OF CRITICAL CARE, (1994 Jul) 3 (4) 276-81.
Journal code: BUM. ISSN: 1062-3264.
CY United States
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199501
AB BACKGROUND: Although several investigators have assessed the effects of pressure support ventilation on tidal volume and breathing patterns, none have investigated the combination of breathing patterns and end-tidal carbon dioxide in ventilator-dependent patients. OBJECTIVES: To determine the differences in end-tidal carbon dioxide and breathing patterns at varying pressure support ventilation levels in ventilator-dependent patients. METHODS: Breathing patterns were measured with a plethysmograph and a ventilator. End-tidal carbon dioxide was measured by connecting the capnography sampler to the exhalation port of intubated patients. All equipment was connected to a five-channel recorder for data collection. The respiratory rate, tidal volume, minute ventilation, end-tidal carbon dioxide concentration, and chest and abdominal movement were recorded at 10-minute intervals at four pressure

support ventilation levels (0, 10, 15, and 20 cm H2O). RESULTS: As pressure support ventilation increased, the respiratory rate, end-tidal carbon dioxide concentration, and asynchronous movement of chest and abdomen decreased. Tidal volume increased with higher pressure support ventilation levels. CONCLUSIONS: Pressure support ventilation prevents asynchronous chest and abdominal movement and lowers the level of end-tidal carbon dioxide. Pressure support ventilation offers clinicians a way to lower the elevated carbon dioxide level that often occurs in critically ill patients. Increasing tidal volume and reducing the work of breathing by using pressure support ventilation may reduce diaphragm fatigue in ventilator-dependent patients.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Abdominal Muscles: PP, physiopathology
Adult
Aged
Breath Tests
***Carbon Dioxide: AN, analysis**
Critical Illness
Middle Age
Plethysmography
***Positive-Pressure Respiration**
Respiratory Insufficiency: PP, physiopathology
*Respiratory Insufficiency: TH, therapy
*Respiratory Mechanics
Respiratory Muscles: PP, physiopathology
Ventilator Weaning

RN 124-38-9 (Carbon Dioxide)

L48 ANSWER 7 OF 19 MEDLINE
AN 92289311 MEDLINE
DN 92289311
TI Carbon dioxide and oxygen partial pressure in expiratory water condensate are equivalent to mixed expired carbon dioxide and oxygen.
AU von Pohle W R; Anholm J D; McMillan J
CS Jerry L. Pettis Memorial Veterans Administration Medical Center, Loma Linda, Ca..
SO CHEST, (1992 Jun) 101 (6) 1601-4.
Journal code: D1C. ISSN: 0012-3692.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; Cancer Journals
EM 199209
AB This study was to determine whether the PCONCO2 and PCONO2 which collect in the expiratory trap of a ventilator circuit are equivalent to PECO2 and PEO2. Fifty studies were performed in 34 mechanically ventilated male patients. Five milliliters of condensate fluid were collected and PECO2 and PEO2 were measured. Exhaled gases were collected simultaneously with condensate fluid for 5 min in a meteorologic balloon and FECO2 and FEO2 were measured; PECO2 and PEO2 were then calculated. The mean PECO2 was not significantly different from PCONCO2 nor was the PCONO2 significantly different from the condensate PCONO2. There was a high correlation between mixed expired PECO2 and PCONCO2 as well as PEO2 and PCONO2. These data indicate expiratory PCONCO2 and PCONO2

provide a valid reflection of PECO2 and PEO2. The PCONCO2 and PCONO2 measured in a clinical blood gas analyzer are accurate and may be used in calculation of VD/VT and in metabolic assessments.

CT Check Tags: Comparative Study; Human; Male
Aged
Blood Gas Analysis: IS, instrumentation
Breath Tests: IS, instrumentation
***Carbon Dioxide: AN, analysis**
Middle Age
*Oxygen: AN, analysis
Partial Pressure
Positive-Pressure Respiration: IS, instrumentation
Spectrum Analysis, Mass
*Ventilators, Mechanical

RN 124-38-9 (Carbon Dioxide); 7782-44-7 (Oxygen)

L48 ANSWER 8 OF 19 MEDLINE
AN 91365497 MEDLINE
DN 91365497
TI Respiratory nicotine absorption in non-smoking females during passive smoking.
AU Iwase A; Aiba M; Kira S
CS Department of Respiratory Medicine, Juntendo University School of Medicine, Tokyo, Japan..
SO INTERNATIONAL ARCHIVES OF OCCUPATIONAL AND ENVIRONMENTAL HEALTH, (1991) 63 (2) 139-43.
Journal code: GPN. ISSN: 0340-0131.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199112
AB The aim of this study was to measure nicotine concentrations in inspired and expired air so as to learn more about respiratory (**nasopharyngeal cavity** and lung) nicotine absorption from inspired air and to estimate the nicotine intake during passive smoking. A total of 17 young non-smoking women were exposed to experimental passive smoking. Inspired and expired air was sucked at a constant rate into samplers filled with acid-treated diatomite (Uniport-S) to absorb nicotine in the air. Absorbed nicotine was assayed by gas chromatography. The range of nicotine concentration in the inspired air was 40-200 micrograms/m3. In this setting, 47 samples obtained from the 17 subjects were assayed. Nicotine absorption, which was calculated as [(nicotine concentration in inspired air-nicotine concentration in expired air)/nicotine concentration in inspired air] x 100, remained at 60%-80% (mean +/- SD, 71.3% +/- 10.2%) without being affected by the nicotine concentration in the inspired air. From this result, it was estimated that the average intake of nicotine was 0.026 mg/h in a group of non-smokers exposed in a room containing a nicotine concentration of 100 micrograms/m3, which is equivalent to fairly severe involuntary tobacco smoking. This is the first report on the estimation of respiratory nicotine absorption and nicotine intake during passive smoking based on the direct measurement of nicotine concentrations in both inspired and expired air.

CT Check Tags: Female; Human; Support, Non-U.S. Gov't
Adolescence

Adult
Breath Tests
Metabolic Clearance Rate: PH, physiology
*Nicotine: PK, pharmacokinetics
*Occupational Exposure
*Tobacco Smoke Pollution
Tobacco Smoke Pollution: AE, adverse effects
Tobacco Smoke Pollution: AN, analysis
RN 54-11-5 (Nicotine)

L48 ANSWER 9 OF 19 MEDLINE
AN 91324600 MEDLINE
DN 91324600
TI Non-invasive pulmonary blood flow measurement by means of CO2 analysis of expiratory gases.
AU Bosman R J; Stoutenbeek C P; Zandstra D F
CS Intensive Care Unit, Onze Lieve Vrouwe Gasthuis, Amsterdam, The Netherlands..
SO INTENSIVE CARE MEDICINE, (1991) 17 (2) 98-102.
Journal code: H2J. ISSN: 0342-4642.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199111
AB Two different methods of CO2-derived non-invasive assessment of the pulmonary blood flow were evaluated. The principle of the formula, as proposed by Gedeon et al., is based on a rapid change in arterial CO2 content and subsequent changes in endtidal PCO2 and CO2 elimination. Both methods were compared to thermodilution cardiac output in 44 postoperative patients after CABG. The first method consisted of a short period of hyperventilation followed by hypoventilation. Comparison with the thermodilution cardiac output showed a low correlation coefficient: using a measured arterial--end-tidal PCO2 difference (E) r = 0.397 was found. Entering a fixed E of 0.53 kPa resulted in r = 0.454. These disappointing figures may be explained by procedural mistakes. The second method, based on partial rebreathing by means of adding an additional dead space of 220 ml for 30-45 s, correlated very well with the thermodilution findings. Correlation coefficients of r = 0.925 (measured E) and r = 0.925 (fixed E) were found. Considering the simplicity of the method, the additional dead space approach seems to be an easy and reliable way to determine pulmonary blood flow.
CT Check Tags: Comparative Study; Human
Adult
Aged
***Breath Tests**
***Carbon Dioxide: AN, analysis**
*Cardiac Output
Coronary Artery Bypass
Evaluation Studies
Mathematics
Middle Age
Positive-Pressure Respiration
*Pulmonary Circulation
Thermodilution

RN 124-38-9 (Carbon Dioxide)

L48 ANSWER 10 OF 19 MEDLINE
AN 88198756 MEDLINE
DN 88198756
TI Monitoring differential CO2 excretion during differential lung ventilation in asymmetric pulmonary contusion. Clinical implications.
AU Zandstra D F; Stoutenbeek C P
CS Instituut voor Anaesthesiologie en Intensive Care, Academisch Ziekenhuis Groningen, The Netherlands..
SO INTENSIVE CARE MEDICINE, (1988) 14 (2) 106-9.
Journal code: H2J. ISSN: 0342-4642.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198808
AB Eighteen severely injured polytrauma patients (ISS 38 +/- 18) with severe asymmetric pulmonary contusion were ventilated with differential lung ventilation (DLV) to improve oxygenation and/or to prevent further unnecessary barotrauma to the lesser involved lung. Differential VCO2 was studied as a parameter for indirect measurement of effective individual pulmonary perfusion. One hour after starting DLV, difference in differential VCO2 (delta VCO2) was 81 +/- 57 ml/min. In 16 patients this had fallen significantly (p less than 0.001) to 32 +/- 30 ml/min, 1 h before DLV was discontinued. In 2 patients, VCO2 remained greater than 200 ml/min, coinciding with clinical deterioration and increasing consolidation of the pulmonary contusion. Bilobectomies were performed in both patients. The excised lobes appeared to be destroyed as the result of laceration, bleeding and subsequent haematomas. This clinical study supports laboratory studies suggesting the usefulness of monitoring differential VCO2 to assess effective differential pulmonary perfusion during DLV.
CT Check Tags: Human
Adolescence
Adult
Aged
Breath Tests
***Carbon Dioxide: AN, analysis**
*Contusions: PP, physiopathology
*Lung: IN, injuries
Lung: PP, physiopathology
Middle Age
*Monitoring, Physiologic
Partial Pressure
Positive-Pressure Respiration
*Respiration, Artificial: MT, methods
RN 124-38-9 (Carbon Dioxide)

L48 ANSWER 11 OF 19 MEDLINE
AN 88160564 MEDLINE
DN 88160564
TI "Closing volume" during high-frequency ventilation in anesthetized dogs.
AU Hachenberg T; Wendt M; Meyer J; Wrenger K; Lawin P

CS Department of Anesthesiology and Intensive Care, Westfalische Wilhelms-Universitat Munster, FRG..
SO ACTA ANAESTHESIOLOGICA SCANDINAVICA, (1988 Feb) 32 (2) 140-6. Journal code: 080. ISSN: 0001-5172.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198806
AB Airway closure, mean airway pressure, gas exchange and different modes of artificial ventilation were investigated in anesthetized and paralyzed dogs with clinically healthy lungs. The animals were ventilated with either intermittent positive pressure ventilation (IPPV), continuous positive pressure ventilation (GPPV, positive end-expiratory pressure (PEEP) = 0.49 kPa) or high-frequency jet ventilation (HFJV, open system) of 2 and 30 Hz with an inspiratory to expiratory (I/E) - ratio of 30/70 and 60/40. Closing volume (CV) was determined by a modified technique, submitting the lung to constant subatmospheric pressure after an inspiratory vital capacity of oxygen. Two different tests for CV were used: the foreign gas bolus (FGB) with helium as nonresident gas and the single breath nitrogen dilution technique (SBO2). During conventional mechanical ventilation, CV decreased significantly (P less than 0.05) after establishing a PEEP of 0.49 kPa. During HFJV, CV increased significantly (P less than 0.01). This effect was predominantly dependent on I/E duration time ratio and to a lesser extent on ventilatory frequency. There were significant differences between CV obtained by the FGB-method (CV(helium] and CV derived from the SBO2-test (CV(SBO2], although both tests revealed the same proportional changes of CV during the different modes of ventilation. The elevated CV was associated with a decreasing Pao2 and increasing Aa-Do2 and Paco2, indicating substantial hypoventilation and mismatching of ventilation and perfusion. Mean airway pressure increased with both CPPV and HFJV, revealing a dissociation between airway pressure and regional FRC distribution during HFJV. It is concluded that certain modes of high-frequency ventilation lead to impaired distribution of inspired gas to dependent lung regions.(ABSTRACT TRUNCATED AT 250 WORDS)
CT Check Tags: Animal
Anesthesia, Intravenous
Breath Tests
Closing Volume
Dogs
Helium
Nitrogen
***Positive-Pressure Respiration**
Pulmonary Gas Exchange
*Respiration
RN 7440-59-7 (Helium); 7727-37-9 (Nitrogen)

L48 ANSWER 12 OF 19 MEDLINE
AN 87161288 MEDLINE
DN 87161288
TI Comparative metabolism and disposition of 1-chloro- and 3-chloro-2-methylpropene in rats and mice.
AU Ghanayem B I; Burka L T
SO DRUG METABOLISM AND DISPOSITION, (1987 Jan-Feb) 15 (1) 91-6.

Journal code: EBR. ISSN: 0090-9556.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198707
AB A recent 2-year carcinogenicity study found that gavage administration of 3-chloro-2-methylpropene (CMP), containing 5% 1-chloro-2-methylpropene (dimethylvinyl chloride, DMVC), caused forestomach neoplasms in rats and mice. Similar chronic studies revealed that DMVC caused forestomach neoplasms in both rats and mice; neoplasms of the **nasal** and oral **cavities** were observed in rats but not in mice. In the current studies we have investigated the metabolic basis of these differences. Daily doses of 150 mg/kg of 2-[14C]DMVC or 2-[14C]CMP were administered to rats for 1, 2, or 4 consecutive days. One daily dose of 150 mg/kg of DMVC was administered to mice. Both DMVC and CMP were rapidly metabolized; however, CMP was cleared at a slightly lower rate. Rats exhaled approximately 25 and 10% of the DMVC and CMP as CO2, respectively. Mice exhaled 25% of the DMVC as CO2. Rats expired 30% of the administered DMVC unchanged in the 24 hr after dosing compared to only 7% of the administered CMP. Mice expired 5% of the administered DMVC in the same time period. This observation may explain the occurrence of tumors in the **nasal** and oral **cavities** of rats treated with DMVC but not in rats treated with CMP or in mice treated with DMVC in 2-year carcinogenicity studies. The 24-hr urinary excretion in rats was 35% of the administered DMVC compared to 58% of CMP. Mice excreted 47% of the administered DMVC in 24 hr in the urine. An unusual urinary metabolite of DMVC, 2-amino-6-methyl-4-thia-5-heptene-1,7-dioic acid, was identified.(ABSTRACT TRUNCATED AT 250 WORDS)
CT Check Tags: Animal; Comparative Study; Male
Acetylation
*Allyl Compounds: ME, metabolism
Breath Tests
*Carcinogens: ME, metabolism
Chromatography, High Pressure Liquid
*Insecticides, Organochlorine: ME, metabolism
Mice
Rats
Rats, Inbred F344
Species Specificity
Tissue Distribution
Vinyl Chloride: AA, analogs & derivatives
*Vinyl Chloride: ME, metabolism
*Vinyl Compounds: ME, metabolism
RN 513-37-1 (1-chloro-2-methylpropene); 563-47-3 (3-chloro-2-methylprop-1-ene); 75-01-4 (Vinyl Chloride)
CN 0 (Allyl Compounds); 0 (Carcinogens); 0 (Insecticides, Organochlorine); 0 (Vinyl Compounds)

L48 ANSWER 13 OF 19 MEDLINE
AN 87003580 MEDLINE
DN 87003580
TI Simple and accurate monitoring of end-tidal carbon dioxide tensions during high-frequency jet ventilation.
AU Algora-Weber A; Rubio J J; Dominguez de Villota E; Cortes J L; Gomez

D; Mosquera J M
SO CRITICAL CARE MEDICINE, (1986 Oct) 14 (10) 895-7.
Journal code: DTF. ISSN: 0090-3493.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 198701
AB To determine whether end-tidal carbon dioxide tension (PETCO2) accurately reflects PaCO2 during high-frequency jet ventilation (HFJV), 43 studies were performed on eight mongrel dogs with normal lungs. During HFJV, minute volume was modified to obtain a range of PaCO2 values from 15.5 to 74.5 torr. When PETCO2 was measured with an infrared gas analyzer, there was a poor correlation between PaCO2 and PETCO2 values. However, when the high-frequency ventilator was adjusted to deliver large tidal-volume (sigh) breaths, PETCO2 values were significantly ($r = 0.94$, p less than .001) correlated with PaCO2. Our data suggest that the PETCO2 of alveolar gas is an accurate indicator of the PaCO2 during HFJV in nondiseased lungs.
CT Check Tags: Animal
***Breath Tests**
***Carbon Dioxide: AN, analysis**
Carbon Dioxide: BL, blood
Dogs
*Monitoring, Physiologic
Partial Pressure
***Positive-Pressure Respiration**
RN 124-38-9 (Carbon Dioxide)

L48 ANSWER 14 OF 19 MEDLINE
AN 86293987 MEDLINE
DN 86293987
TI The **soft palate** and breathing.
AU Rodenstein D O; Stanescu D C
SO AMERICAN REVIEW OF RESPIRATORY DISEASE, (1986 Aug) 134 (2) 311-25.
Ref: 172
Journal code: 426. ISSN: 0003-0805.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 198611
CT Check Tags: Human; Support, Non-U.S. Gov't
Breath Tests
Child
Child, Preschool
Choanal Atresia: PP, physiopathology
Exertion
Fluorometry
Infant
Infant, Newborn
Lip
Mouth Breathing
Nose
Palate: AH, anatomy & histology
*Palate: PH, physiology

*Respiration
Sleep Apnea Syndromes: PP, physiopathology
Sleep Apnea Syndromes: SU, surgery
Smoking
Snoring: PP, physiopathology
Spirometry
Sudden Infant Death: PP, physiopathology
Uvula: AH, anatomy & histology

L48 ANSWER 15 OF 19 MEDLINE
AN 86289116 MEDLINE
DN 86289116
TI Measurement and regulation of nasal airflow resistance in man.
AU Syabbalo N C; Bundgaard A; Entholm P; Schmidt A; Widdicombe J G
SO RHINOLOGY, (1986 Jun) 24 (2) 87-101.
Journal code: TEX. ISSN: 0300-0729.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198611
AB A method for measuring human nasal airflow resistance (Rnaw) is described. Air flows at constant pressure through both **nasal cavities** via a face mask and out through the mouth. Airflow is inversely related to Rnaw. The method has several advantages over many other methods for measuring Rnaw, in particular allowing aerodynamic separation of nose and lungs, and frequent measurements over long periods without discomfort to or intervention with subjects or patients. We have used this method to obtain standard values of Rnaw in healthy subjects and in patients with asthma and/or rhinitis. Age has a negative correlation with Rnaw but no sexual difference was seen. Cigarette smoking increases Rnaw especially in young adults. Patients with rhinopathy have much higher resistances than healthy subjects, but those with asthma alone do not. Rnaw is sensitive to changes in ventilation and lung volumes; deep inspiration and oral hyperventilation decrease Rnaw, while deep expiration, nasal hyperventilation and breath-holding increase it. Hypoxia and hypercapnia locally applied in the nose increase Rnaw. It is suggested that these changes are predominantly due to changes in control of the nasal vascular bed.
CT Check Tags: Comparative Study; Female; Human; Male
Adolescence
Adult
Aged
*Airway Resistance
*Asthma: PP, physiopathology
***Breath Tests: MT, methods**
Hyperventilation: PP, physiopathology
Middle Age
***Nasal Cavity: PH, physiology**
Nasal Cavity: PP, physiopathology
Rhinitis: PP, physiopathology
Smoking

L48 ANSWER 16 OF 19 MEDLINE
AN 85211767 MEDLINE
DN 85211767

TI Carcinogenicity of diallylnitrosamine following intragastric administration to Syrian hamsters.
AU Grandjean C J; Althoff J; Pour P M
NC NO1CP 33278 (NCI)
SO JOURNAL OF THE NATIONAL CANCER INSTITUTE, (1985 May) 74 (5) 1043-6. Journal code: J9J. ISSN: 0027-8874.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 198509
AB Single and multiple intragastric doses of diallylnitrosamine [(DAN) CAS: 16338-97-9] administered to Syrian golden hamsters induced tumors, primarily of the respiratory tract, in which the **nasal cavity** epithelium was the preferred site. When compared to the effect of DAN after subcutaneous administration at equal doses, the incidence of respiratory tract tumors was lower but that of hepatic tumors was higher, suggesting partial metabolism of DAN in the liver. Comparative metabolic and mutagenesis studies in BD IX rats (which reportedly are refractory to the carcinogenic effects of DAN), in Wistar rats, and in Syrian hamsters showed that a greater proportion of orally administered DAN was exhaled by both rat strains (12-19%) than by hamsters (2-4%). The activity of the microsomal fraction of the hamster liver for metabolizing DAN to allyl alcohol was about 10 times higher than that in rats, whereas no significant species differences were found with the cytosolic fraction. Pretreatment of animals with phenobarbital (PB) or pregnenolone-16 alpha-carbonitrile (PCN) did not influence either microsomal or cytosolic enzyme activities in hamsters, whereas about a tenfold increase in enzyme activities was seen after pretreatment with PB in both rat strains and following PCN in Wistar rats. Moreover, in bacterial mutagenesis assays, hamster liver microsomes were twice as active as those in BD IX rats. The results are discussed in relation to the carcinogenicity of DAN in rats and hamsters.
CT Check Tags: Animal; Comparative Study; Female; In Vitro; Male; Support, U.S. Gov't, P.H.S.
*Adenocarcinoma: CI, chemically induced
Biotransformation
Breath Tests
*Carcinogens: TO, toxicity
Cell Fractionation
Chromatography, Gas
Cytosol: ME, metabolism
Hamsters
Lethal Dose 50
Liver: DE, drug effects
Liver: ME, metabolism
Liver: PA, pathology
*Liver Neoplasms: CI, chemically induced
Mesocricetus
Microsomes, Liver: ME, metabolism
Mutagenicity Tests
Nitrosamines: ME, metabolism
*Nitrosamines: TO, toxicity
Nitrosamines: UR, urine
*Otorhinolaryngologic Neoplasms: CI, chemically induced

*Papilloma: CI, chemically induced
Rats
Rats, Inbred Strains
RN 16338-97-9 (diallylnitrosamine)
CN 0 (Carcinogens); 0 (Nitrosamines)

L48 ANSWER 17 OF 19 MEDLINE
AN 85172714 MEDLINE
DN 85172714
TI Inability to titrate PEEP in patients with acute respiratory failure using end-tidal carbon dioxide measurements.
AU Jardin F; Genevray B; Pazin M; Margairaz A
SO ANESTHESIOLOGY, (1985 Apr) 62 (4) 530-3.
Journal code: 4SG. ISSN: 0003-3022.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 198507
CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Acute Disease
Adolescence
Adult
Aged
Breath Tests
***Carbon Dioxide: AN, analysis**
Carbon Dioxide: BL, blood
Functional Residual Capacity
Lung Compliance
Middle Age
Oxygen: BL, blood
***Positive-Pressure Respiration: MT, methods**
Respiratory Insufficiency: PP, physiopathology
*Respiratory Insufficiency: TH, therapy
RN 124-38-9 (Carbon Dioxide); 7782-44-7 (Oxygen)

L48 ANSWER 18 OF 19 MEDLINE
AN 84104520 MEDLINE
DN 84104520
TI Deadspace and the single breath test for carbon dioxide during anaesthesia and artificial ventilation. Effects of tidal volume and frequency of respiration.
AU Fletcher R; Jonson B
SO BRITISH JOURNAL OF ANAESTHESIA, (1984 Feb) 56 (2) 109-19.
Journal code: AUO. ISSN: 0007-0912.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198405
AB Using the single breath test for carbon dioxide (SBT-CO2), the components of physiological deadspace were investigated during anaesthesia with IPPV in 58 patients. A square-wave inspiratory flow and an end-inspiratory pause (25% and 10% of cycle time, respectively) were used. At tidal volumes of 0.45 litre (f = 17 b.p.m.), and 0.75 litre (f = 9 b.p.m.), median values for VDphys/VT were 0.44 and 0.31. Increasing VT and decreasing f did not change

airway deadspace (VDaw) so that the fraction VDaw/VT was decreased (P less than 0.001). The alveolar deadspace fraction, VDalv/VTalv, was decreased in 93% of patients (P less than 0.001). These improvements with increasing VT can be attributed to beneficial effects on gas distribution and diffusion time. Patients with large alveolar deadspaces had steeply sloping SBT-CO2 phase III, and increased expiratory time constants of the respiratory system. The median arterial--end-tidal PCO2 difference, (PaCO2-PE'CO2), was 0.6 kPa at small and 0.3 kPa at large tidal volumes (P less than 0.001). Three patients had zero and four had negative (PaCO2-PE'CO2) values at large tidal volumes. When phase III slopes steeply, negative (PaCO2-PE'CO2) values may be observed in the presence of alveolar deadspace.

CT Check Tags: Human; Support, Non-U.S. Gov't
Adolescence
Adult
Aged
*Anesthesia, Inhalation
***Breath Tests**
Carbon Dioxide: BL, blood
*Carbon Dioxide: PH, physiology
*Intermittent Positive-Pressure Ventilation
Middle Age
Partial Pressure
***Positive-Pressure Respiration**
Pulmonary Gas Exchange
Respiration
*Respiratory Dead Space
Tidal Volume
Time Factors

RN 124-38-9 (Carbon Dioxide)

L48 ANSWER 19 OF 19 MEDLINE
AN 80173335 MEDLINE
DN 80173335
TI Mixed expired gas transients as a noninvasive index of the effects of PEEP.
AU Zinn S E; Ozanne G M; Fairley H B
SO ANESTHESIOLOGY, (1980 Mar) 52 (3) 261-4.
Journal code: 4SG. ISSN: 0003-3022.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 198008
CT Check Tags: Female; Human; Male
Adult
Aged
Breath Tests
Carbon Dioxide: AN, analysis
Cardiac Output
Middle Age
Oxygen: AN, analysis
*Oxygen Consumption
***Positive-Pressure Respiration**
*Respiratory Insufficiency: ME, metabolism
Respiratory Insufficiency: TH, therapy

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RN   124-38-9 (Carbon Dioxide); 7782-44-7 (Oxygen)

=> file embase
FILE 'EMBASE' ENTERED AT 09:42:30 ON 12 AUG 1998
COPYRIGHT (C) 1998 Elsevier Science B.V.  All rights reserved.

 FILE COVERS 1974 TO 6 Aug 1998 (19980806/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> d his l49- full

     FILE 'EMBASE' ENTERED AT 09:18:48 ON 12 AUG 1998
L49         2160 SEA ABB=ON  PLU=ON  BREATH ANALYSIS/CT
L50       708817 SEA ABB=ON  PLU=ON  0130/CT
L51          318 SEA ABB=ON  PLU=ON  L49 AND L50
L52         2160 SEA ABB=ON  PLU=ON  L34 AND L49
L53         2160 SEA ABB=ON  PLU=ON  L49 AND L52
L54          318 SEA ABB=ON  PLU=ON  L53 AND L51
L55        20310 SEA ABB=ON  PLU=ON  (NITRIC(W)OXIDE OR NO OR CARBON(W)DIO
                 XIDE OR CO2 OR GAS? OR COMPONENT)(5A)(BREATH OR EXHALANT
                 OR PULMONARY OR LUNG)
L56            49 SEA ABB=ON  PLU=ON  L54 AND L55
L57          4503 SEA ABB=ON  PLU=ON  L22 OR L29 OR L30
L58             0 SEA ABB=ON  PLU=ON  L57 AND L56
L59         10472 SEA ABB=ON  PLU=ON  PARTIAL(W)PRESSURE OR PP
L60             2 SEA ABB=ON  PLU=ON  L57 AND L59
L61            70 SEA ABB=ON  PLU=ON  CLOS?(3A)L57
L62             0 SEA ABB=ON  PLU=ON  L61 AND L49
L63             1 SEA ABB=ON  PLU=ON  L61 AND L34
L64         12111 SEA ABB=ON  PLU=ON  BREATH OR EXHALANT
L65             3 SEA ABB=ON  PLU=ON  L61 AND L64
L66             5 SEA ABB=ON  PLU=ON  L60 OR L63 OR L65
L67            49 SEA ABB=ON  PLU=ON  L56 NOT L66


=> d l66 1-5 all

L66  ANSWER 1 OF 5  EMBASE  COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN   97213018  EMBASE
TI   Nasal contribution to exhaled nitric oxide during exhalation against
     resistance or during breath holding.
AU   Kharitonov S.A.; Barnes P.J.
CS   Prof. P.J. Barnes, Department of Thoracic Medicine, National Heart
     and Lung Institute, Imperial School of Medicine, Dovehouse Street,
     London SW3 6LY, United Kingdom
SO   Thorax, (1997) 52/6 (540-544).
     Refs: 25
     ISSN: 0040-6376  CODEN: THORA7
CY   United Kingdom
DT   Journal
FS   015     Chest Diseases, Thoracic Surgery and Tuberculosis
LA   English
SL   English
AB   Background - The concentration of nitric oxide (NO) is increased in
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the exhaled air of patients with inflammation of the airways, suggesting that this may be a useful measurement to monitor inflammation in diseases such as asthma. However, there have been concerns that exhaled NO may be contaminated by the high concentrations of NO derived from the upper airways, and that this may account for differences in reported values of exhaled NO using different techniques. A study was performed, with argon as a tracer, to determine the extent of nasal contamination of exhaled NO using different expiratory manoeuvres. Methods - Exhaled and nasal NO were measured by a chemiluminescence analyser. Argon (4.8%) was delivered continuously to the nose. Gas was sampled from the posterior oropharynx and argon and carbon dioxide were measured by mass spectrometry at the same time as NO. Results - During a single expiration against a low resistance and during **breath** holding there was no evidence for nasal contamination, whereas during exhalation without resistance argon concentration in the oropharynx was increased from 0.91% (95% CI 0.84% to 0.98%) in ambient air to 1.28% (0.9% to 2.24%, p <0.0001) during a single **breath** or 2.37% (2.29% to 2.51%, p<0.0001) during tidal breathing. Conclusions - Collection of exhaled NO in a reservoir during tidal breathing is likely to be contaminated by NO derived from the nose and this may underestimate any increases in NO derived from the lower respiratory tract in inflammatory diseases. However, with slow expiration against a resistance and created back pressure to **close** the **soft palate**, there is no contamination of exhaled air which then reflects concentrations of NO in the lower airways.

CT EMTAGS: diagnosis (0140); mammal (0738); human (0888); normal human (0800); article (0060); priority journal (0007)
Medical Descriptors:
*asthma: DI, diagnosis
*respiratory tract inflammation: DI, diagnosis
diagnostic value
expired air
tidal volume
nose airflow
human
normal human
article
priority journal
Drug Descriptors:
*nitric oxide

RN (nitric oxide) 10102-43-9

L66 ANSWER 2 OF 5 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 97036475 EMBASE
TI Marked flow-dependence of exhaled nitric oxide using a new technique to exclude nasal nitric oxide.
AU Silkoff P.E.; McClean P.A.; Slutsky A.S.; Furlott H.G.; Hoffstein E.; Wakita S.; Chapman K.R.; Szalai J.P.; Zamel N.
CS Canada
SO American Journal of Respiratory and Critical Care Medicine, (1997) 155/1 (260-267).
Refs: 33
ISSN: 1073-449X CODEN: AJCMED
CY United States
DT Journal

FS 015 Chest Diseases, Thoracic Surgery and Tuberculosis
LA English
SL English
AB Exhaled nitric oxide (NO) may aid in **monitoring** pulmonary disease. The single-**breath** NO profile (subjects with nose clip) was described as a NO peak followed by a plateau (NO(PLAT)). Published exhaled NO values vary greatly, possibly due to contamination with nasal NO and differing respiratory maneuvers. We developed a technique to measure pulmonary NO, without nasal NO, by having the subject maintain a positive expiratory pressure (ensuring **vellum closure**), and we examined the variation in NO(PLAT) over a range of expiratory flows (4.2 to 1,550 ml/s). NO(PLAT) values rose almost 35-fold (3.2 .+-. 1.4 ppb to 110.5 .+-. 54.8 ppb) with decreasing flow, described by NO(PLAT) = 208.6795 x (flow rate)-0.5995. However, NO excretion showed an almost 11-fold rise as flow increased. In summary, we present a simple technique for measuring exhaled NO without contamination by nasal NO. There is a marked flow dependence of exhaled NO concentration and excretion. Exhaled pulmonary NO is best measured at very low flow rates to amplify the signal and must be related to the expiratory flow employed.
CT EMTAGS: diagnosis (0140); therapy (0160); mammal (0738); human (0888); human experiment (0104); adolescent (0017); adult (0018); article (0060); priority journal (0007)
Medical Descriptors:
*lung disease: DI, diagnosis
expired air
positive end expiratory pressure
chemoluminescence
tidal volume
exercise
hyperventilation
asthma: DI, diagnosis
human
human experiment
adolescent
adult
article
priority journal
Drug Descriptors:
*nitric oxide: EC, endogenous compound

L66 ANSWER 3 OF 5 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 96049661 EMBASE
TI Nasal contribution to exhaled nitric oxide at rest and during breathholding in humans.
AU Kimberly B.; Nejadnik B.; Giraud G.D.; Holden W.E.
CS Portland VA Medical Center, 3710 S.W. U.S. Veterans Rd., Portland, OR 97201, United States
SO American Journal of Respiratory and Critical Care Medicine, (1996) 153/2 (829-836).
ISSN: 1073-449X CODEN: AJCMED
CY United States
DT Journal
FS 002 Physiology
029 Clinical Biochemistry
LA English

SL English
AB We characterized the nasal contribution to exhaled nitric oxide (NO) at rest and during breathholding in humans. Exhaled NO was greater during nose breathing (141 .+-. 17 nl/min/M2, mean .+-. SEM) compared with mouth breathing (68 .+-. 6 nl/min/M2, n = 8, p < 0.001). After voluntary closure of the soft palate (VCSP) to eliminate nasal NO, exhaled NO from the mouth decreased further (30 .+-. 4 nl/min/M2, p < 0.001). Release of NO into nasal passages during VCSP (217 .+-. 19 nl/min/M2) was greater than exhaled NO during nasal breathing (141 .+-. 17 nl/min/m2, p < 0.001), suggesting that nasal NO is taken up by the respiratory tract. During mouth breathing or nose breathing, NO concentrations sampled with a bronchoscope were higher in the nasopharynx than at the epiglottis or in the trachea in five subjects. Increased peak exhaled NO after a breathhold (33 .+-. 7 ppb) was reduced (10 .+-. 4 ppb, p < 0.001) after balloon occlusion of the nasopharynx. NO concentration during breathholding increased to a greater extent in the nasopharynx than in the pharynx or trachea. We conclude that the majority of exhaled NO at rest and during a breathhold originates in the nasopharynx.
CT EMTAGS: respiratory system (0930); pharynx (0932); mouth (0931); larynx (0933); musculoskeletal system (0960); cartilage (0963); diagnosis (0140); mammal (0738); human (0888); male (0041); human experiment (0104); normal human (0800); controlled study (0197); adult (0018); priority journal (0007); article (0060)
Medical Descriptors:
***breath holding**
*nose breathing
*nasopharynx
soft palate
mouth breathing
epiglottis
trachea
bronchoscopy
exhalation
oxygen tension
carbon dioxide tension
human
male
human experiment
normal human
controlled study
adult
priority journal
article
Drug Descriptors:
*nitric oxide: EC, endogenous compound
RN (nitric oxide) 10102-43-9

L66 ANSWER 4 OF 5 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 94363134 EMBASE
TI Patterns of abnormal myogenesis in human cleft palates.
AU Cohen S.R.; Chen L.L.; Burdi A.R.; Trotman C.-A.
CS Center for Craniofacial Disorders, c/o Atlanta Plastic Surgery, 975 Johnson Ferry Road, Atlanta, GA 30342, United States
SO CLEFT PALATE-CRANIOFAC. J., (1994) 31/5 (345-350).
ISSN: 1055-6656 CODEN: CPJOEG

CY United States
DT Journal
FS 011 Otorhinolaryngology
021 Developmental Biology and Teratology
022 Human Genetics
LA English
SL English
AB To test the hypothesis that **soft palate** muscles are abnormal in cleft palate, we compared **soft palate** morphogenesis in fetuses with cleft palate (n=4) to age-matched (n=3) and nonmatched (n=1) control specimens. The morphologic status of all **soft palate** and masticatory structures were classified into one of six stages based on the level of histogenesis. At 54 mm crown-rump length (CRL), the levator veli palatini (L), palatopharyngeus (**PP**), and palatoglossus (PG) in cleft subjects demonstrated mesenchymal condensation into myoblastic fields, lagging behind the control specimens (97 mm CRL), which displayed definitive fields of myoblasts and myotube formation. In the 175 mm and 225 mm cleft and the 170 mm and 192 mm control specimens, muscular morphology was similar and had reached its postnatal appearance for the tensor veli palatini (175 m only) and L, **PP**, PG (225 mm only). Muscle fiber directions were, however, disoriented and disorganized, especially close to the medial epithelial edge of the cleft. The levator veli palatini, could not be distinguished as a discrete muscle in the cleft specimens, and what we believed to be the **PP** and PG seemed 'normal' at the level of light microscopy, but malpositioned in a superior direction. This preliminary study demonstrates for the first time that early myogenesis in cleft palates differs from normal.
CT EMTAGS: congenital disorder (0315); etiology (0135); mouth (0931); embryo (0011); mammal (0738); human (0888); case report (0151); controlled study (0197); fetus (0012); priority journal (0007); article (0060)
Medical Descriptors:
*cleft palate: ET, etiology
*muscle disease
developmental disorder: ET, etiology
soft palate
morphogenesis
mastication
myotube
muscle cell
histogenesis
human
case report
controlled study
fetus
priority journal
article

L66 ANSWER 5 OF 5 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 92235843 EMBASE
TI Popliteal pterygium syndrome with special consideration of the cleft malformation: Case report.
AU Koch H.; Grzonka M.; Koch J.
CS Bachstr. 21, 6349 Greifenstein-Holzhausen, Germany, Federal Republic

of
SO CLEFT PALATE-CRANIOFAC. J., (1992) 29/1 (80-84).
ISSN: 1055-6656 CODEN: CPJOEG
CY United States
DT Journal
FS 009 Surgery
011 Otorhinolaryngology
022 Human Genetics
LA English
SL English
AB This report describes a new case of popliteal pterygium syndrome (**PPS**) and also a treatment protocol. The patient presented with the complete complex of **PPS** and additional abnormalities that have not been described in the literature: a sinus of the upper lip, an extreme hypopoplastic prolabium with aplasia of the vestibule in this area, and a velar pterygium.
CT EMTAGS: congenital disorder (0315); mouth (0931); respiratory system (0930); face, nose and sinuses (0984); mammal (0738); human (0888); female (0042); case report (0151); newborn (0013); infant (0014); child (0022); article (0060)
Medical Descriptors:
*sexual development
*cleft palate: CN, congenital disorder
*cleft palate: SU, surgery
*cleft lip: CN, congenital disorder
*cleft lip: SU, surgery
*syndactyly: CN, congenital disorder
*syndactyly: SU, surgery
*syndrome
hard palate
soft palate
vomeronasal organ
upper lip
jaw malformation
middle ear effusion
varus deformity
human
female
case report
newborn
article

=> d 167 1-49 ti

L67 ANSWER 1 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Possible antioxidant effect of vitamin A supplementation in premature infants.

L67 ANSWER 2 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Measuring energy costs of leisure activity in adolescents using a **CO2 breath** test.

L67 ANSWER 3 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Exhaled human **breath measurement** method for assessing exposure to halogenated volatile organic compounds.

L67 ANSWER 4 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.

TI Application of isotope-selective nondispersive infrared spectrometry (IRIS) for evaluation of [13C]octanoic acid **gastric** -emptying. **breath** tests: Comparison with isotope ratio-mass spectrometry (IRMS).

L67 ANSWER 5 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Selected ion flow tube: A technique for **quantitative** trace **gas analysis** of air and **breath**.

L67 ANSWER 6 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI The selected ion flow tube (SIFT) - A novel technique for biological monitoring.

L67 ANSWER 7 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Origins of **breath nitric oxide** in humans.

L67 ANSWER 8 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Determination of isoprene in human **breath** by thermal desorption **gas** chromatography with ultraviolet **detection**.

L67 ANSWER 9 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI An experiment on drinking using **breath** alcohol **monitor** (Alcomed 3010) by an electrochemical method.

L67 ANSWER 10 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Carbobydrate malabsorption: **Quantification** by methane and hydrogen **breath** tests.

L67 ANSWER 11 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Magnesium hydrogen breath test using end expiratory sampling to assess achlorhydria in pernicious anaemia patients.

L67 ANSWER 12 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Electrochemical **measurement** of carbon monoxide in **breath**: Interference by hydrogen.

L67 ANSWER 13 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Anaerobic threshold detection in patients with congestive heart failure.

L67 ANSWER 14 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Diethyl ether interference with infrared **breath analysis**.

L67 ANSWER 15 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI A model-based evaluation of the single-**breath CO2** ventilatory response test.

L67 ANSWER 16 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Display of the alveolar plateau of single-breath tests in 'dilution index' format.

L67 ANSWER 17 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Diagnostic value of **breath** tests in **gastroenterology**.

L67 ANSWER 18 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Verification of Intoximeter 3000 breath alcohol concentration by magnesium perchlorate tube method in long-term field program.

L67 ANSWER 19 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Rapid sample throughput for biomedical stable isotope tracer studies.

L67 ANSWER 20 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI A computerized classification technique for screening for the presence of breath biomarkers in lung cancer.

L67 ANSWER 21 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Invasive and noninvasive measurement of the respiratory deadspace in anesthetized children with cardiac disease.

L67 ANSWER 22 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Automated measurement of the concentration and 13C enrichment of **carbon dioxide** in **breath** and blood samples using the Finnigan MAT **Breath Gas Analysis** System.

L67 ANSWER 23 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI The origin of hydrogen cyanide in breath.

L67 ANSWER 24 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Breath-acetone concentrations in fasting healthy men: Response of infrared **breath**-alcohol **analyzers**.

L67 ANSWER 25 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI **Breath**-by-**breath measurement** of alveolar **gas** exchange with a slow-response gas analyser.

L67 ANSWER 26 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Drug-alcohol flush reaction and **breath** acetaldehyde concentration: **No** interference with an infrared **breath** alcohol **analyzer**.

L67 ANSWER 27 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Selection of a suitable internal standard in head space **gas** chromatographic **breath** ethanol **analysis** after adsorption on silica gel.

L67 ANSWER 28 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI [Methodological aspects of the hydrogen (H2) breath test]. METHODISCHE ASPEKTE ZUR ANWENDUNG DES WASSERSTOFF (H2)-ATEMTESTES.

L67 ANSWER 29 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Evaluation of **gastrointestinal** motility using the hydrogen **breath** test.

L67 ANSWER 30 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Evidential breath testing of drivers - Day surgery and halothane anaesthesia.

L67 ANSWER 31 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.

TI Comparison of the phenacetin and aminopyrine breath tests: Effect of liver disease, inducers and cobaltous chloride.

L67 ANSWER 32 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI SBT-CO2: A new method for the diagnosis of pulmonary embolism?.

L67 ANSWER 33 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI **Breath** hydrogen as a test for **gastrointestinal** transit.

L67 ANSWER 34 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI 13C-**Carbon dioxide breath** tests in **gastroenterology**.

L67 ANSWER 35 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI [Simplified methods for **breath** hydrogen (H2) **analysis**: Clinical investigation of two H2 **breath** test-devices].
VEREINFACHTE METHODEN ZUR ENDEXSPIRATORISCHEN WASSERSTOFF (H2)-ANALYSE - KLINISCHE ERPROBUNG ZWEIER H2-ATEMTESTGERATE.

L67 ANSWER 36 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI An inexpensive **gas** chromatograph for **breath** hydrogen **analysis**.

L67 ANSWER 37 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI **Gas** chromatographic **quantitation** of **breath** hydrogen and carbon monoxide for clinical investigation in adults and in children.

L67 ANSWER 38 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI **Quantitative measurements** of the alcohol concentration and the temperature of **breath** during a prolonged exhalation.

L67 ANSWER 39 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Interpreting the results of regional single-breath studies from the patient's point of view.

L67 ANSWER 40 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Alterations of **CO2** production during nonfasting isotopic **CO2 breath** tests: Concise communication.

L67 ANSWER 41 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Interval sampling of breath hydrogen (H2) as an index of lactose malabsorption in lactase-deficient subjects.

L67 ANSWER 42 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Infrared **breath** alcohol **analysis** following inhalation of **gasoline** fumes.

L67 ANSWER 43 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI [A method for the determination of **breath** alcohol with the multifract **gas** chromatograph].
EINE METHODE ZUR ATEMALKOHOLBESTIMMUNG MIT HILFE DES GASCHROMATOGRAPHEN MULTIFRACT.

L67 ANSWER 44 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Collection of **breath** for hydrogen **estimation**.

L67 ANSWER 45 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI The precision and accuracy of a **gas** chromatograph intoximeter **breath** alcohol device part II - in-vivo experiments.

L67 ANSWER 46 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI The precision and accuracy of a **gas** chromatograph intoximeter **breath** alcohol device part I - in-vitro experiments.

L67 ANSWER 47 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI [The use of tests based on **breath analysis** for nutritional studies].
EL USO DE PRUEBAS BASADAS EN EL ANALISIS DEL AIRE ESPIRADO, EN ESTUDIOS NUTRICIONALES.

L67 ANSWER 48 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI The use of relative time programming in a **gas** chromatograph **breath analyser**.

L67 ANSWER 49 OF 49 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
TI Indirect determination of ethanol in the blood by **breath analysis** (Czech).

=> d his l68-

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L68     1401914 S 0140/CT
L69      234741 S 0930/CT
L70          15 S L67 AND L69
L71          27 S L67 AND L68
L72           0 S L59 AND L61
L73        2234 S RESPIRATOR
L74           0 S L61 AND L73
L75           2 S L67 AND PRESSURE
L76          38 S L70 OR L71
L77          19 S (NITRIC()OXIDE OR NO OR CARBON()DIOXIDE OR CO2) AND L76
L78          20 S L75 OR L77
L79          20 S L78 NOT L66
```

=> d l79 1-20 all

L79 ANSWER 1 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 97301232 EMBASE
TI Possible antioxidant effect of vitamin A supplementation in premature infants.
AU Schwarz K.B.; Cox J.M.; Sharma S.; Clement L.; Humphrey J.; Gleason C.; Abbey H.; Sehnert S.S.; Risby T.H.
CS Dr. K.B. Schwarz, Brady 320, 600 North Wolfe Street, Baltimore, MD 21287-2631, United States
SO Journal of Pediatric Gastroenterology and Nutrition, (1997) 25/4 (408-414).
Refs: 27
ISSN: 0277-2116 CODEN: JPGND6

CY United States
DT Journal
FS 007 Pediatrics and Pediatric Surgery
037 Drug Literature Index
LA English
SL English
AB Background: Increased lipid peroxidation caused by oxygen free radicals is thought to be one of the common pathogenetic mechanisms for the so-called oxygen radical diseases of pre-maturity. Since in vitro studies have shown that various forms of vitamin A can exert antioxidant effects that are more potent than those of vitamin E (treatment with which has been ineffective in these diseases), the purpose of this prospective, controlled study was to determine whether administration of supplemental vitamin A to premature infants deficient in this vitamin would have an antioxidant effect in vivo. Methods: Fourteen infants (1181 .+-. 35 g; gestational age 29 .+-. 0.04 weeks) with a serum retinol concentration at 7 .+-. 2 days of age in the deficient range, lower than 0.7 .mu.mol/l (<20 .mu.g/dl), were enrolled in the study. Infants were randomized to receive the standard amount of vitamin A or standard plus supplemental (2.6 .mu.mol/l [2500 IU] orally each day) vitamin A, beginning at 1 week of age. Antioxidant effects of supplementation were assessed by a decrease in lipid peroxidation, quantified by the ethane content of expired air. Results: Three weeks after study enrollment, total dully vitamin A intake in the infants receiving supplements was 4.565 .+-. 0.236 .mu.mol (4354 .+-. 225 IU) versus 1.879 .+-. 0.317 .mu.mol/l (1792 .+-. 302 IU) in infants receiving standard amounts of the vitamin. In spite of the difference in intake of vitamin A, 3 weeks after study enrollment, serum retinol concentrations did not differ between the infants given supplements and those receiving standard amounts of vitamin A, 0.70 .+-. 0.21 versus 0.66 .+-. 0.07 .mu.mol/l (20 .+-. 6 .mu.g/dl versus 19 .+-. 2 .mu.g/dl, respectively). In the infants receiving supplemental vitamin A, breath ethane values declined from baseline values. There was an inverse correlation between the number of weeks of supplementation and **breath** ethane values, whereas there was **no** significant correlation between the duration of the study and breath ethane values in the infants not given supplements. Conclusions: Our data suggest that supplementation with vitamin A in a small group of vitamin A-deficient preterm infants was associated with an antioxidant effect. Although **no** immediate clinical benefits were associated with supplementation, the data provide the rationale for future investigations of possible antioxidant effects of (larger amounts) of vitamin A in higher risk premature infants born with subnormal serum retinol concentrations.
CT EMTAGS: therapy (0160); methodology (**0130**); diagnosis (**0140**); mammal (0738); human (0888); clinical article (0152); newborn (0013); infant (0014); child (0022); oral drug administration (0181); intravenous drug administration (0182); article (0060); priority journal (0007)
Medical Descriptors:
*prematurity: TH, therapy
*antioxidant activity
*vitamin intake
*enteric feeding
*parenteral nutrition
clinical protocol

diet supplementation
lipid peroxidation
vitamin blood level
treatment outcome
breath analysis
oxidative stress
human
clinical article
newborn
infant
oral drug administration
intravenous drug administration
article
priority journal
Drug Descriptors:
*retinol: CR, drug concentration
*retinol: DO, drug dose
*alpha tocopherol: CR, drug concentration
*alpha tocopherol: DO, drug dose
*antioxidant: CR, drug concentration
*antioxidant: DO, drug dose
RN (retinol) 68-26-8; (alpha tocopherol) 1406-18-4, 1406-70-8, 52225-20-4, 58-95-7, 59-02-9
CN Aquasol e

L79 ANSWER 2 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 97292597 EMBASE
TI Measuring energy costs of leisure activity in adolescents using a **CO2 breath** test.
AU Horswill C.A.; Zipf W.B.; Kien C.L.
CS Dr. C.L. Kien, W209, Children's Hospital, 700 Children's Drive, Columbus, OH 43205, United States
SO Medicine and Science in Sports and Exercise, (1997) 29/9 (1263-1268).
Refs: 26
ISSN: 0195-9131 CODEN: MSCSBJ
CY United States
DT Journal
FS 002 Physiology
019 Rehabilitation and Physical Medicine
037 Drug Literature Index
LA English
SL English
AB To determine whether a 13C-bicarbonate, isotope dilution technique could be used to estimate relative changes in energy expenditure of leisure activities of short duration, we studied eight adolescents who performed the following activities: watching television (120 min); playing a stringed instrument (60 min plus 60 min of sitting); and walking plus rest during two approximately isocaloric sessions (slow walk at 40% of peak V.ovrhdot.O2 for 43 min plus 77 min of sitting; fast walk at 73% of peak V.ovrhdot.O2 for 22 min plus 98 min of sitting). The rate of appearance of **CO2** (RaCO2) was determined from the ratio of the oral dose of 613C-bicarbonate and the isotopic enrichment of **breath CO2**. The net rates of excretion of **CO2** (V.ovrhdot.**CO2**) and oxygen consumption were measured. V.ovrhdot.**CO2** and RaCO2 were correlated ($r = 0.93$; $P < 0.05$). To adjust for the systematic

difference in **CO2** production between methods, determinations were expressed as a fraction of that during television viewing. For RaCO2, the ratios for instrument playing, walking at 40% peak V.ovrhdot.**CO2**, and walking at 73% peak V.ovrhdot.O2 were respectively 133 .+-. 20%, 186 .+-. 38%, and 206 .+-. 34%; for V.ovrhdot.**CO2**, the respective ratios were 129 .+-. 19, 210 .+-. 50, and 232 .+-. 39 (P > 0.05 for methods and interaction, two- way ANOVA). RaCO2 may be a useful method for detecting relative differences in energy expenditure associated with leisure activities of brief duration.

CT EMTAGS: diagnosis (**0140**); apparatus, equipment and supplies (0510); methodology (**0130**); mammal (0738); human (0888); male (0041); female (0042); human experiment (0104); normal human (0800); adolescent (0017); oral drug administration (0181); article (0060)
Medical Descriptors:
*energy expenditure
*leisure
***carbon dioxide breathing**
***breath analysis**
isotope dilution assay
television
play
walking
sitting
rest
oxygen consumption
exercise
clinical protocol
human
male
female
human experiment
normal human
clinical trial
adolescent
oral drug administration
article
Drug Descriptors:
***carbon dioxide**
carbon 13
bicarbonate

RN (**carbon dioxide**) 124-38-9, 58561-67-4; (carbon 13) 14762-74-4; (bicarbonate) 144-55-8, 71-52-3

CO Cambridge isotope (United States)

L79 ANSWER 3 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.

AN 97020942 EMBASE

TI Selected ion flow tube: A technique for **quantitative** trace **gas analysis** of air and **breath**.

AU Spanel P.; Smith D.

CS P. Spanel, Dept Biomed Engineering Med Physics, Hospital Centre, University of Keele, Thornburrow Drive, Stoke-on-Trent ST4 7QB, United Kingdom

SO Medical and Biological Engineering and Computing, (1996) 34/6 (409-419).
Refs: 30

ISSN: 0140-0118 CODEN: MBECDY
CY United Kingdom
DT Journal
FS 027 Biophysics, Bioengineering and Medical Instrumentation
LA English
SL English
AB The selected ion flow tube (SIFT) technique for trace **gas analysis** of air and **breath** is based on soft chemical ionisation of the trace gases to the exclusion of the major air and **breath gases**, in fast-flowing inert carrier gas, exploiting the ion-molecule reactions that occur between the trace gases and the pre selected precursor ions (H3O+, **NO**+ and O2+). The physics and ion chemistry involved in the SIFT technique are described, as are the kinetics of the ion-molecule reactions that are exploited to quantitatively analyse the trace gases. Fast on-line data-acquisition hardware and software have been developed to analyse the mass spectra obtained, from which partial **pressures** of the trace gases down to about 10 parts per billion can be measured. The time response of the instrument is 20 ms, allowing the profiles of the trace **gas** concentrations on **breath** to be obtained during a normal breathing cycle. Pilot results obtained with this SIFT technique include **detection** and **quantification** of the most abundant **breath** trace **gases**, **analysis** of cigarette smoke, **detection** of **gases** present on smokers' **breath** and accurate **measurement** of the partial **pressures** of NH3, **NO** and NO2 in air. The simultaneous **analysis** of several **breath** trace **gases** during a single exhalation is clearly demonstrated, and thus different elution times for isoprene and methanol along the respiratory tract are observed. This technique has great potential in many clinical and biological disciplines, and in health and safety monitoring.
CT EMTAGS: diagnosis (**0140**); methodology (**0130**); apparatus, equipment and supplies (0510); automation, computers and data processing (0530); mammal (0738); human (0888); review (0001)
Medical Descriptors:
***breath analysis**
*gas analysis
*air analysis
biological monitoring
technique
medical instrumentation
mass spectrometry
computer
computer program
pressure
human
review
Drug Descriptors:
cigarette smoke
nitrogen
isoprene
methanol

L79 ANSWER 4 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 96374968 EMBASE

TI The selected ion flow tube (SIFT) - A novel technique for biological monitoring.
AU Spanel P.; Rolfe P.; Rajan B.; Smith D.
CS United Kingdom
SO Annals of Occupational Hygiene, (1996) 40/6 (615-626).
ISSN: 0003-4878 CODEN: AOHYA3
PUI S 0003-4878(96)00028-2
CY United Kingdom
DT Journal
FS 017 Public Health, Social Medicine and Epidemiology
035 Occupational Health and Industrial Medicine
LA English
SL English
AB We describe the use of our selected ion flow tube (SIFT) technique for the rapid detection and quantification of trace gases in atmospheric air, with special reference to the **analysis** of human **breath**. It is based on the chemical ionization of the **breath** trace **gases** to the exclusion of the major **breath gases**, using 'soft' proton transfer from H30+ ions. Breath samples can either be introduced into the SIFT from bags or by direct breathing into the apparatus, the advantage of the latter approach being that surface active gases such as ammonia and many organic vapours which adsorb onto bag surfaces can be more accurately quantified. We present examples of the **analysis** of laboratory air, the **breath** of a non-smoker and of a smoker taken from bag samples, and illustrate the rapid time response of the technique by showing the time profile of acetone on breath during direct breathing into the apparatus. The current partial **pressure** sensitivity of our SIFT method is within the range 30 ppb to in excess of 100 ppm, but with further development the device could be made more sensitive, 1 ppb being well within reach. A transportable SIFT device is under development which will have applications in environmental, medical and biological research, health and safety monitoring, and in clinical diagnosis.
CT EMTAGS: diagnosis (0140); methodology (**0130**); mammal (0738); human (0888); article (0060); priority journal (0007)
Medical Descriptors:
*air sampling
breath analysis
*occupational health
*biological monitoring
*occupational exposure
ambient air
ionization
proton transport
gas
adsorption
smoking
time
pressure
technique
human
article
priority journal
Drug Descriptors:
ammonia

acetone
volatile organic compound

L79 ANSWER 5 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 96319890 EMBASE
TI Origins of **breath nitric oxide** in humans.
AU Dillon W.C.; Hampl V.; Shultz P.J.; Rubins J.B.; Archer S.L.
CS Minneapolis VA Medical Center, 1 Veterans Drive, Minneapolis, MN 55417, United States
SO Chest, (1996) 110/4 (930-938).
ISSN: 0012-3692 CODEN: CHETBF
CY United States
DT Journal
FS 005 General Pathology and Pathological Anatomy
015 Chest Diseases, Thoracic Surgery and Tuberculosis
037 Drug Literature Index
LA English
SL English
AB Study objectives: **Nitric oxide** (NO) exists in the human **breath**, but little is known about its site of origin or enzyme source. The aims of this study were to locate the main site of **NO** release into human **breath** and to decide whether the inducible isoform of **NO** synthase (iNOS) and nasal bacteria contribute to **breath NO**. Design: Using a chemiluminescence **assay**, **NO** levels were **measured** in air exhaled from the nose, mouth, trachea, and distal airway. The susceptibility of **breath NO** to treatment with a topical corticosteroid (to inhibit iNOS; intranasal beclomethasone dipropionate for 2 weeks) and with antibiotics (systemic amoxicillin plus clavulanic acid and intranasal bacitracin zinc, 5 to 10 days) was also tested. Participants: Twenty-one healthy subjects, 9 intubated patients, and 7 patients undergoing bronchoscopy. All subjects were nonsmokers free of pneumonia, rhinitis, and bronchitis. **Measurements** and results: **Breath NO** levels, collected in the **gas** sampling bags, were greater ($p<0.05$) in the nose (25 .+-. 2 parts per billion [ppb]) than in the mouth (6 .+-. 1 ppb), trachea (3 .+-. 1 ppb), or distal airway (1 .+-. 2 ppb). Similar results were obtained when **NO** was sampled directly by cannula from nose or mouth during resting breathing. Nasal **breath NO** signal increased sharply during 30 s of breath-holding. Beclomethasone, but not antibiotics, decreased nasal **NO** levels without changing oral **breath NO**. Conclusions: Most **NO** in normal human **breath** derives locally from the nose where it can reach high levels during **breath**-holding. **NO** is synthesized, at least in part, by a steroid-inhibitable, nonbacterial, **NO** synthase, presumably iNOS.
CT EMTAGS: diagnosis (**0140**); microorganism (0724); methodology (**0130**); mammal (0738); human (0888); male (0041); female (0042); human experiment (0104); normal human (0800); aged (0019); adult (0018); oral drug administration (0181); topical drug administration (0186); intranasal drug administration (0283); article (0060); priority journal (0007); enzyme (0990)
Medical Descriptors:

***breath analysis**
*nose breathing
*mouth breathing
expired air
breath holding
bronchoscopy
endotracheal intubation
bacterial flora
chemoluminescence
clinical protocol
human
male
female
human experiment
normal human
aged
adult
oral drug administration
topical drug administration
intranasal drug administration
article
priority journal
Drug Descriptors:
***nitric oxide: EC, endogenous compound**
nitric oxide synthase: EC, endogenous compound
corticosteroid
beclometasone dipropionate
antibiotic agent
amoxicillin plus clavulanic acid
bacitracin zinc
ointment
RN 10102-43-9; 125978-95-2; 5534-09-8; 74469-00-4; 1405-89-6
CN (1) Augmentin
CO (1) Smith kline beecham (United States); Schering (United States)

L79 ANSWER 6 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 95313866 EMBASE
TI Determination of isoprene in human **breath** by thermal desorption **gas** chromatography with ultraviolet **detection**.
AU Jones A.W.; Lagesson V.; Tagesson C.
CS Department Forensic Toxicology, Ntl Laboratory Forensic Medicine, University Hospital, 581 85 Linkoping, Sweden
SO Journal of Chromatography B: Biomedical Applications, (1995) 672/1 (1-6).
ISSN: 0378-4347 CODEN: JCBBEP
CY Netherlands
DT Journal
FS 029 Clinical Biochemistry
LA English
SL English
AB We describe a new, highly sensitive and specific method for the **analysis** of isoprene (2-methyl-1,3-butadiene) in human **breath**. A known volume of expired air (150 ml) was drawn through a solid sorbent material to capture trace organic substances, followed by thermal desorption at 200.degree.C and subsequent determination of isoprene by gas chromatography with

diode-array ultraviolet detection. The calibration plot was linear (r = 0.99) over a wide range of breath isoprene concentrations (0-12 nmol/l), and levels down to 0.10 nmol/l, were easily measurable. In sixteen healthy subjects (six men and ten women), all of whom were non-smokers, the mean, median and spread of breath isoprene concentrations were 3.73, 3.36 and 1.60-10.33 nmol/l, respectively. **No** statistically significant differences in the concentrations of breath isoprene were observed between the sexes. The mean (.+-.S.D.) concentration of breath isoprene in nine consecutive tests with the same subject was 3.69 .+-. 0.60 nmol/l, and the coefficient of variation was 16.3%. Much larger variations in exhaled isoprene were seen during the day and also between days when the same subject was tested repeatedly. The excretion patterns of isoprene in human breath can be investigated with high selectivity and sensitivity with this new analytical method.

CT EMTAGS: diagnosis (**0140**); methodology (**0130**); mammal (0738); human (0888); controlled study (0197); normal human (0800); human tissue, cells or cell components (0111); priority journal (0007); article (0060)
Medical Descriptors:
***breath analysis**
gas chromatography
ultraviolet spectrophotometry
methodology
human
controlled study
normal human
human tissue
priority journal
article
Drug Descriptors:
*isoprene: EC, endogenous compound

RN 78-79-5

L79 ANSWER 7 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 94293423 EMBASE
TI Carbobydrate malabsorption: **Quantification** by methane and hydrogen **breath** tests.
AU Rumessen J.J.; Nordgaard-Andersen I.; Gudmand-Hoyer E.
CS Department of Gastroenterology 261, Hvidovre Hospital, University of Copenhagen, Kettegard Alle 30, DK-2650 Hvidovre, Denmark
SO SCAND. J. GASTROENTEROL., (1994) 29/9 (826-832).
ISSN: 0036-5521 CODEN: SJGRA4
CY Norway
DT Journal
FS 006 Internal Medicine
029 Clinical Biochemistry
048 Gastroenterology
037 Drug Literature Index
LA English
SL English
AB Background: Previous studies in small series of healthy adults have suggested that parallel measurement of hydrogen and methane resulting from gut fermentation may improve the precision of quantitative estimates of carbohydrate malabsorption. Systematic, controlled studies of the role of simultaneous hydrogen and methane **measurements** using end-expiratory **breath** test

techniques are not available. Methods: We studied seven healthy, adult methane and hydrogen producers and seven methane non-producers by means of end-expiratory **breath** test techniques. **Breath gas** concentrations and **gastrointestinal** symptoms were recorded at intervals for 12 h after ingestion of 10, 20, and 30 g lactulose. Results: In the seven methane producers the excretion pattern was highly variable; the integrated methane responses were disproportional and not reliably reproducible. However, quantitative estimates of carbohydrate malabsorption on the basis of individual areas under the methane and hydrogen excretion curves (AUCs) tended to improve in methane producers after ingestion of 20 g lactulose by simple addition of AUCs of methane to the AUCs of the hydrogen curves. Estimates were **no** more precise in methane producers than similar estimates in non-producers. Gastrointestinal symptoms increased significantly with increasing lactulose dose; correlation with total hydrogen and methane excretion was weak. Conclusions: Our study suggests that in methane producers, simple addition of methane and hydrogen excretion improves the precision of semiquantitative measurements of carbohydrate malabsorption. The status of methane production should, therefore, be known to interpret breath tests semiquantitatively. The weak correlation between hydrogen and methane excretion and gas-related abdominal complaints suggests that other factors than net production of these gases may be responsible for the symptoms.

CT EMTAGS: diagnosis (**0140**); methodology (**0130**); mammal (0738); human (0888); controlled study (0197); normal human (0800); male (0041); female (0042); adult (0018); oral drug administration (0181); priority journal (0007); article (0060)
Medical Descriptors:
*carbohydrate intolerance: DI, diagnosis
breath analysis
technique
human
controlled study
normal human
male
female
adult
oral drug administration
priority journal
article
Drug Descriptors:
*hydrogen: EC, endogenous compound
*methane: EC, endogenous compound
*lactulose: PD, pharmacology

RN 1333-74-0; 12385-13-6; 74-82-8; 4618-18-2
CO Sad (Denmark)

L79 ANSWER 8 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 92219363 EMBASE
TI Anaerobic threshold detection in patients with congestive heart failure.
AU Katz S.D.; Berkowitz R.; LeJemtel T.H.
CS Division of Cardiology, Montefiore Medical Center, 111 East 210 Street, Bronx, NY 10467, United States
SO AM. J. CARDIOL., (1992) 69/19 (1565-1569).

ISSN: 0002-9149 CODEN: AJCDAG
CY United States
DT Journal
FS 006 Internal Medicine
018 Cardiovascular Diseases and Cardiovascular Surgery
LA English
SL English
AB Anaerobic threshold measurements determined either invasively by analysis of arterial lactate concentration (lactate threshold) or noninvasively by respiratory gas exchange analysis (ventilatory threshold) were compared in patients with chronic congestive heart failure. Sixteen patients performed symptom-limited maximal exercise on a bicycle ergometer using a continuous ramp protocol with measurement of arterial lactate concentration at 1 minute intervals, and continuous **breath**-by-**breath analysis** of respiratory **gas** exchange. A specific lactate threshold point was detected in only 7 patients. These 7 patients had significantly greater peak oxygen uptake than did the 9 in whom **no** specific lactate threshold point was detected (15.9 .+-. 1.0 vs 10.5 .+-. 0.5 ml/kg/min; p <0.05). Ventilatory threshold significantly correlated with lactate threshold in these 7 patients. In the remaining 9 patients, neither lactate nor ventilatory threshold could be reliably determined with methods used in the present study.
CT EMTAGS: methodology (**0130**); automation, computers and data processing (0530); diagnosis (**0140**); mammal (0738); human (0888); male (0041); female (0042); clinical article (0152); aged (0019); adult (0018); priority journal (0007); article (0060)
Medical Descriptors:
*congestive heart failure
***lung gas exchange**
*oxygen consumption
maximum allowable concentration
lactate blood level
bicycle ergometry
intermethod comparison
data analysis
lung ventilation perfusion ratio
breath analysis
human
male
female
clinical article
aged
adult
priority journal
article

L79 ANSWER 9 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 92175569 EMBASE
TI Diethyl ether interference with infrared **breath analysis**.
AU Bell C.M.; Gutowski S.J.; Young S.; Wells D.
CS State Forensic Science Laboratory, Forensic Drive, Macleod, Vic. 3085, Australia
SO J. ANAL. TOXICOL., (1992) 16/3 (166-168).
ISSN: 0146-4760 CODEN: JATOD3

CY United States
DT Journal
FS 049 Forensic Science Abstracts
052 Toxicology
LA English
SL English
AB Diethyl ether vapor may substantially interfere with **breath** alcohol **analysis** by instruments based on infrared absorption at 9.5 .mu.m. Exposure of two volunteers simultaneously to diethyl ether vapor for one hour followed immediately by breath tests on the Draeger Alcotest 7110, Siemens Alcomat V5.2F, and Seres Ethylometre 679T produced apparent alcohol readings in one subject of 0.4, 0.1, and 0.1 g/100 mL of blood, respectively. Positive readings persisted in this subject for more than 3 hours. The second subject produced much lower readings of 0.03, 0.01, and 0.00, respectively. Readings persisted with the Alcotest 7110 for one hour. **Gas** chromatographic **analyses** of blood and **breath** samples confirmed that these readings were caused by diethyl ether and not ethanol. The blood concentration of diethyl ether in Subject A immediately after exposure was 25 mg/L. This level produced **no** clinically detectable neurological changes in the subject.
CT EMTAGS: diagnosis (**0140**); apparatus, equipment and supplies (0510); etiology (0135); methodology (**0130**); mammal (0738); human (0888); male (0041); human experiment (0104); priority journal (0007); article (0060)
Medical Descriptors:
***breath analysis**
vapor
equipment
blood analysis
gas chromatography
psychomotor disorder: ET, etiology
methodology
human
male
human experiment
priority journal
article
Drug Descriptors:
*ether
*alcohol
RN 60-29-7; 64-17-5

L79 ANSWER 10 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 90075605 EMBASE
TI A model-based evaluation of the single-**breath** CO2 ventilatory response test.
AU Khoo M.C.K.
CS Biomedical Engineering Department, University of Southern California, Los Angeles, CA 90089, United States
SO J. APPL. PHYSIOL., (1990) 68/1 (393-399).
ISSN: 0161-7567 CODEN: JAPHEV
CY United States
DT Journal
FS 002 Physiology
027 Biophysics, Bioengineering and Medical Instrumentation

LA English
AB The accuracy of the single-**breath** **CO2** inhalation test as a method for determining peripheral chemoreflex gain (G(p)) is evaluated through computer simulations using a mathematical model of the closed-loop respiratory control system. Estimates of G(p) (G(p)') are based on 'corrected' changes in end-tidal PCO2, because the uncorrected end-tidal values do not accurately reflect changes in alveolar PCO2. The influence of the central chemoreflex on G(p)' is generally <10% but can become disproportionally more significant as the relative contribution of the peripheral chemoreflex diminishes. G(p)' tends to overestimate G(p) with the inclusion of peripheral chemoreceptor rate sensitivity, but this effect is offset by the time constant for adaptation. The spontaneous variability of breathing can seriously impair the resolution of G(p). Averaging of G(p)' deduced from individual single-**breath** tests can lead to erroneous **estimates** of G(p) even when a large number of repetitions are performed. This problem can be minimized by first ensemble averaging the data from individual single-breath tests and, then, computing G(p)' from the resulting mean changes.
CT EMTAGS: nonbiological model (0503); nonhuman (0777); methodology (**0130**); article (0060); priority journal (0007); respiratory system (**0930**)
Medical Descriptors:
***breath analysis**
*measurement
*model
*mathematics
***carbon dioxide**
*gas exchange
nonbiological model
*lung ventilation
RN 124-38-9; 58561-67-4

L79 ANSWER 11 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 89233018 EMBASE
TI Diagnostic value of **breath** tests in **gastroenterology**.
AU Sciarretta G.
CS Service of Gastroenterology and Digestive Endoscopy, Maggiore Hospital Bologna, Italy
SO J. CLIN. NUTR. GASTROENTEROL., (1989) 4/1 (28-37).
CODEN: JCNGEW
CY Spain
DT Journal
FS 048 Gastroenterology
LA English
CT EMTAGS: respiratory system (**0930**); radioisotope (0131); review (0001); human (0888); methodology (**0130**)
Medical Descriptors:
***breath analysis**
*hydrogen breath test
***carbon dioxide breathing**
radioisotope

L79 ANSWER 12 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 88118236 EMBASE
TI Invasive and noninvasive measurement of the respiratory deadspace in

anesthetized children with cardiac disease.
AU Fletcher R.
CS Department of Anesthesiology, University Hospital, Lund, Sweden
SO ANESTH. ANALG., (1988) 67/5 (442-447).
ISSN: 0003-2999 CODEN: AACRAT
CY United States
DT Journal
FS 007 Pediatrics and Pediatric Surgery
018 Cardiovascular Diseases and Cardiovascular Surgery
024 Anesthesiology
LA English
AB To compare the magnitude of the different 'invasive' and 'noninvasive' dead space variables and the effect on them of ventilator setting, **CO2** single **breath** tests (SBT-**CO2**) were obtained using an on-line computerized system based on the Servo ventilator and **CO2** Analyzer 930, in 50 children anesthetized for cardiac surgery. The variables were the airway deadspace (V(D)aw), Bohr's deadspace (V(D)Bohr) obtained noninvasively using end-tidal PCO2 (PET(**CO2**)) for alveolar PCO2 in the deadspace equation, and the physiologic deadspace, V(D)phys. In 42 children with normal single breath tests, V(D)aw was two-thirds of V(D)Bohr; in 9 children in whom phase III of SBT-**CO2** (the 'alveolar plateau') was steeper than normal, it was only half of V(D)Bohr. Steeper slopes of phase III were seen particularly in the present of left-right (LR) shunting. V(D)phys was very similar in magnitude to V(D)Bohr in all children, except those with right-left (RL) shunts. V(D)aw was the major component of V(D)phys only in children with normal arterial-end-tidal PCO2 differences i.e., those without RL shunts. When two ventilator frequencies giving the same alveolar ventilation were compared in children with normal gas exchange, V(D)Bohr as a fraction of tidal volume was least at the lower frequency, as it also is in adults. The data confirm that noninvasive **CO2** monitoring and measurement of deadspace gives useful indexes of the adequacy of ventilation in all children except those with RL shunts.
CT EMTAGS: infant (0014); child (0022); age (0020); heart (0921); priority journal (0007); human (0888); methodology (**0130**); apparatus, equipment and supplies (0510); clinical article (0152); respiratory system (**0930**)
Medical Descriptors:
infant
child
age
heart disease
breath analysis
*lung dead space
*tidal volume

L79 ANSWER 13 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 87041931 EMBASE
TI Drug-alcohol flush reaction and **breath** acetaldehyde concentration: **No** interference with an infrared **breath** alcohol **analyzer**.
AU Jones A.W.
CS Department of Alcohol and Drug Addiction Research, Karolinska Institutet, S-104 01 Stockholm, Sweden
SO J. ANAL. TOXICOL., (1986) 10/3 (98-101).

CODEN: JATOD3
CY United States
LA English
AB Human volunteers were given a small dose of ethanol (0.25 g/kg body weight) after pretreatment with either calcium carbimide (50 mg) or a placebo according to a crossover design. Calcium carbimide, an inhibitor of aldehyde dehydrogenase, caused intense facial flushing and a pronounced rise in the concentration of acetaldehyde in breath. At 15-min intervals throughout the experiment, breath-ethanol concentrations were determined both by gas chromatography (GC) (specific method) and by infrared (IR) spectrometry with an Intoxilyzer model 4011 **breath**-alcohol **analyzer**. The results with these two independent methods of analysis were compared in experiments with and without calcium carbimide pretreatment. The regression equations relating breath-ethanol determinations by GC and IR methods in the two test situations were not significantly different. The elevated breath concentrations of acetaldehyde associated with a drug-alcohol flush reaction do not invalidate the use of infrared breath-alcohol devices for evidential purposes.
CC 032.18.00.00.00.
037.04.03.00.00. Drug Literature Index/CENTRAL DEPRESSANTS AND STIMULANTS/Central stimulants
037.34.02.00.00. /ENZYMES, COENZYMES, INHIBITORS AND SUBSTRATES/Enzyme inhibitors
037.37.00.00.00. /DRUGS FOR TREATMENT OF ADDICTION
037.38.00.00.00. /PLACEBOS
040.02.03.00.00.
040.04.03.00.00.
052.02.02.00.00.
052.03.00.00.00.
052.11.05.01.00.
052.11.07.00.00.
052.15.06.00.00.
CT EMTAGS: priority journal (0007); drug monitoring (0199); adverse drug reaction (0198); oral drug administration (0181); human experiment (0104); methodology (**0130**); chemical procedures (0107); human (0888); normal human (0800); respiratory system (**0930**); peripheral vascular system (0923); skin, hair, nails and sweat glands (0980)
Medical Descriptors:
*drug tissue level
*drug mechanism
*drug monitoring
*adverse drug reaction
*gas chromatography
*infrared spectrometry
*calcium carbimide
*ethanol
*flushing
*drug interaction
*acetaldehyde
*drug breath level
*placebo
breath analysis
infrared spectroscopy

L79 ANSWER 14 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 86104329 EMBASE
TI [Methodological aspects of the hydrogen (H2) breath test].
METHODISCHE ASPEKTE ZUR ANWENDUNG DES WASSERSTOFF (H2)-ATEMTESTES.
AU Breuer N.; Ptok A.; Gotze H.; Goebell H.
CS Abt. fur Gastroenterologie, Med. Klinik und Poliklinik der Univ. Essen, D-4300 Essen 1, Germany, Federal Republic of
SO Z. GASTROENTEROL., (1986) 24/2 (80-84).
CODEN: ZGASAX
CY Germany, Federal Republic of
LA German
SL English
AB Normalization of the breath hydrogen (H2) concentration by simultaneous determination of **breath carbon dioxide** (**CO2**) and the addition of lactulose to a liquid meal have been recommended to improve the reproducibility of the hydrogen breath test. To assess the clinical relevance of these recommendations, we studied 64 children of 4 different age groups and 12 adults. Simultaneous determination of **CO2** concentration and normalization of **breath** H2 resulted in a marked decrease of intestinal transit time and its variation in children; in adults, however, this correction was negligible. With lactulose alone, the mean coefficient of variation within individuals was only 11.7% and 13.2%, with and without H2 normalization, respectively. Therefore, the addition of a liquid meal does not seem to be necesary.
CC 006.02.04.00.00.
006.12.03.00.00.
029.02.15.00.00.
029.03.03.00.00.
048.03.01.00.00.
048.04.02.00.00.
CT EMTAGS: priority journal (0007); normal value (0120); major clinical study (0150); methodology (**0130**); diagnosis (**0140**); human (0888); digestive system (0935)
Medical Descriptors:
*hydrogen breath test
***breath analysis**
***carbon dioxide**
*intestine absorption
methodology
lactulose
liquid meal

L79 ANSWER 15 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 85200636 EMBASE
TI Evidential breath testing of drivers - Day surgery and halothane anaesthesia.
AU Dunbar J.A.; Macrae W.A.; Murphie J.H.; et al.
CS Tayside Safe Driving Project, Department of Forensic Medicine, University of Dundee Royal Infirmary, Dundee DD1 9ND, United Kingdom
SO MED. SCI. LAW, (1985) 25/3 (162-164).
CODEN: MDSLA6
CY United Kingdom
LA English
AB Recent criticisms of **breath analysis** for alcohol make the following case of interest. In this instance, the driver

claimed that he could not possibly have consumed enough alcohol to be over the legal limit and that the reading must have been due to halothane administered for surgery earlier that day. The case highlights the problem of substances which absorb at the same operational wavelength as alcohol. Halothane is one such substance, but experimental testing demonstrated that clinical concentrations are too low to affect the Camic **breath analyser** and there is **no** interaction between ethanol and halothane in **breath analysis**.

CC 017.01.04.00.00.
017.01.05.00.00.
017.01.10.02.00.
017.02.04.00.00.
024.06.15.00.00.
029.02.14.00.00.
030.04.01.00.00.
030.32.00.00.00.
030.34.00.00.00.
032.16.01.00.00.
035.10.03.02.00.
035.10.10.00.00.
037.03.05.00.00. Drug Literature Index/PSYCHOTROPIC DRUGS/Tranquilizers
037.04.03.00.00. /CENTRAL DEPRESSANTS AND STIMULANTS/Central stimulants
037.06.01.00.00. /ANESTHETICS/General anesthetics
049.16.01.00.00.
049.28.05.00.00.
049.37.00.00.00.
052.03.03.00.00.
052.11.05.01.00.
052.11.07.00.00.

CT EMTAGS: priority journal (0007); drug analysis (0190); inhalational drug administration (0188); intravenous drug administration (0182); oral drug administration (0181); human experiment (0104); methodology (**0130**); chemical procedures (0107); diagnosis (**0140**); therapy (0160); human (0888)
Medical Descriptors:
*drug determination
*drug elimination
*drug interaction
*infrared spectrometry
*alcohol
***breath analysis**
*halothane
*driver
*halothane anesthesia
interference
lorazepam
methohexital

CO May and baker

L79 ANSWER 16 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 85116008 EMBASE
TI Comparison of the phenacetin and aminopyrine breath tests: Effect of liver disease, inducers and cobaltous chloride.
AU Schoeller D.A.; Kotake A.N.; Lambert G.H.; et al.

CS Department of Medicine, The University of Chicago, Chicago, IL 60637, United States
SO HEPATOLOGY, (1985) 5/2 (276-281).
CODEN: HPTLD
CY United States
LA English
AB The phenacetin breath test (PBT) has been proposed as an alternative to the aminopyrine breath test (ABT) for the assessment of hepatic function. To investigate the clinical utility of the PBT, we compared the PBT with the ABT in 9 healthy subjects and 18 patients with biopsy-proven liver disease. We also investigated the effects of cytochrome P-450 inducers in humans and rats, and the effect of cobaltous chloride (CoCl2) in rats on the PBT to elucidate the relationship between the rate of phenacetin deethylation and exhaled labeled **CO2** derived from phenacetin. In humans with abnormal ABTs, the PBT correlated with the ABT (r = 0.77), but in healthy humans there was **no** correlation between the two **breath** tests. Rifampin pretreatment in healthy humans induced the ABT by 27%, but did not induce the PBT. In rats the PBT was not induced by 3-methylcholanthrene pretreatment at phenacetin doses of 1 mg per kg, but was induced by both 3-methylcholanthrene (178%) and phenobarbital (142%) at 10 mg per kg phenacetin. Pretreatment of rats with CoCl2, which reduces cytochrome P-450 content, decreased the PBT by 40% and the ABT by 84%. The insensitivity of the PBT to induction except at high doses of phenacetin suggests that phenacetin deethylation is not the rate-limiting process modulating exhaled labeled **CO2** in healthy subjects, and that the PBT does not generally reflect normal or induced phenacetin dealkylation rates. The PBT, however, did reflect hepatic damage and may even be better than the ABT for grading the severity of hepatic damage.
CC 029.03.01.00.00.
029.06.13.00.00.
030.01.02.01.00.
030.01.06.03.00.
037.07.01.00.00. Drug Literature Index/ANALGESICS/Antipyretic analgesics
037.09.01.01.00. /HORMONES AND DRUGS AFFECTING ENDOCRINE SYSTEMS/Corticosteroids/Glucocorticoids
037.19.02.00.00. /DIAGNOSTIC AGENTS/Liver function tests
037.19.10.00.00. //Radioisotopes
037.34.01.01.00. /ENZYMES, COENZYMES, INHIBITORS AND SUBSTRATES/Enzymes and coenzymes/Enzyme inducing agents
037.34.03.00.00. //Drug metabolism
048.04.02.00.00.
048.04.05.00.00.
048.07.02.01.00.
CT EMTAGS: priority journal (0007); drug analysis (0190); drug comparison (0196); liver (0946); intraperitoneal drug administration (0178); oral drug administration (0181); methodology (**0130**); chemical procedures (0107); human (0888); normal human (0800); normal value (0120); controlled study (0197); diagnosis (**0140**); prevention (0165); human experiment (0104); human tissue, cells or cell components (0111); animal experiment (0112); animal tissue, cells or cell components (0105)
Medical Descriptors:
*drug determination

*drug elimination
*drug metabolism
*drug comparison
*drug interaction
*liver disease
*enzyme induction
*cytochrome p450
*alcohol liver disease
*phenacetin
*aminophenazone
***breath analysis**
*phenacetin c 13
*phenacetin c 14
*aminophenazone c 13
phenobarbital
rifampicin
cobalt chloride
3 methylcholanthrene
prednisone
CO Merck isotopes (Canada)

L79 ANSWER 17 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 85105332 EMBASE
TI SBT-**CO2**: A new method for the diagnosis of pulmonary embolism?.
AU Eriksson L.; Wollmer P.; Jonson B.; et al.
CS Department of Clinical Physiology, University Hospital, S-221 85 Lund, Sweden
SO CLIN. PHYSIOL., (1985) 5/SUPPL. 3 (111-115).
CODEN: CLPHDU
CY United Kingdom
LA English
AB Pulmonary embolism (PE) poses a great clinical problem. It is a common cause of hospital morbidity and mortality, especially among surgical patients. Diagnostic tests, such as pulmonary angiography and pulmonary scintigraphy, require facilities only found in larger hospitals, and there is therefore a need for a simpler screening test suitable for smaller hospitals. The aim of this study was to assess the possibility of using the single **breath** test for **CO2** (SBT-**CO2**) to this end.
CC 002.06.01.00.00.
015.01.04.03.00.
015.18.00.00.00.
025.10.05.00.00.
CT EMTAGS: methodology (**0130**); diagnosis (**0140**); clinical article (0152); human (0888); cardiovascular system (0920); respiratory system (**0930**); peripheral vascular system (0923)
Medical Descriptors:
*lung embolism
*lung angiography
***breath analysis**
***carbon dioxide**

L79 ANSWER 18 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 84124302 EMBASE
TI 13C-**Carbon dioxide breath** tests in

gastroenterology.
AU Ghoos Y.; Rutgeerts P.; Vantrappen G.
CS Universiteit Ziekenhuis Gasthuisberg, Leuven, Belgium
SO TIJDSCHR. NED. VER. KLIN. CHEM., (1984) 9/1 (44-46).
CODEN: TNVCE
CY Netherlands
LA Dutch
AB **CO2** testing with stable isotopes has come of age. Sample taking is simple and the tests are definitely accepted by patients. Because of working with stable isotopes, **CO2** testing is also suitable for children and pregnant women. Nevertheless these tests do have some limitations, notably the costs of the testing instruments and the costs of labelled molecules.
CC 023.06.01.00.00.
029.02.01.00.00.
029.07.08.00.00.
029.07.09.00.00.
CT EMTAGS: methodology (**0130**); diagnosis (**0140**);
human (0888)
Medical Descriptors:
***carbon dioxide c 13**
***breath analysis**

L79 ANSWER 19 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 82105639 EMBASE
TI **Quantitative measurements** of the alcohol concentration and the temperature of **breath** during a prolonged exhalation.
AU Jones A.W.
CS Dept. Alcoh. Drug Addict. Res., Karolinska, Inst., Stockholm, Sweden
SO ACTA PHYSIOL. SCAND., (1982) 114/3 (407-412).
CODEN: APSCAX
CY Sweden
LA English
AB After healthy men drank a moderate dose of alcohol their **breath**-alcohol concentrations and **breath**-temperatures were **quantitatively** determined as a function of expired-volume. All test were made in the post-absorptive phase of ethanol metabolism and **breath** samples were **analysed** by **gas**-liquid chromatography. The temperatures of **breath** rose steadily from start to end of exhalation with a mean of 34.48.degree.C after a forced vital capacity (FVC) maneuver. The standard deviation of a single **measurment** of **breath**-temperature in randomly selected subjects was .+-.0.40.degree.C. **No** statistically increases in the temperature of breath were noted after an expired volume of 70% FVC. At average expired-breath volumes of 13.5%, 26.2%, 52.2%, 71.7% and 94.2% FVC the breath-temperatures were 33.3.degree.C, 33.5.degree.C, 33.9.degree.C, 34.1.degree.C and 34.4.degree.C whereas breath-alcohol concentration were 79.7%, 85.9%, 90.5%, 95.9% and 98.8% of the 100% FVC alcohol levels. When I corrected for the lower temperatures of breath in the early stages of expiration, the concentrations of alcohol were 86.6%, 90.8%, 93.5% and 98.5% of the 100% FVC levels. These results show that at least 70% of a man's vital capacity must be discarded before a breath-concentration plateau for ethanol develops. But even after a discard breath-volume of 10% FVC the concentration of alcohol

reaches 80% of the level in end-expiratory breath. I suspect that ethanol dissolves in the mucous-membranes of the upper respiratory tract and equilibrates with breath in the airway dead-space and in the mouth.

CC 002.01.02.00.00.
002.06.01.00.00.
015.01.06.00.00.
030.34.00.00.00.
037.04.00.00.00. Drug Literature Index/CENTRAL DEPRESSANTS AND STIMULANTS
037.26.05.00.00. /TOXIC SUBSTANCES AND PROTECTIVE AGENTS/Industrial and domestic toxic substances
037.26.06.01.00. //Drugs/Toxic effects of drug overdosage
049.29.00.00.00.

CT EMTAGS: human tissue, cells or cell components (0111); methodology (**0130**); normal human (0800); respiratory system (**0930**)

Medical Descriptors:
*alcohol
***breath analysis**
*ethanol
*temperature
*vital capacity

L79 ANSWER 20 OF 20 EMBASE COPYRIGHT 1998 ELSEVIER SCI. B.V.
AN 81221842 EMBASE
TI Interval sampling of breath hydrogen (H2) as an index of lactose malabsorption in lactase-deficient subjects.
AU Welsh J.D.; LaVerne Payne D.; Manion C.; et al.
CS State of Oklahoma Teach. Hosp., Oklahoma Mem. Hosp., Oklahoma, Okla. 73126, United States
SO DIG. DIS. SCI., (1981) 26/8 (681-685).
CODEN: DDSCDJ
CY United States
LA English
AB Interval sampling of breath hydrogen content was used in lactose malabsorbers: to compare hydrogen responses following increasing oral doses of lactose in milk and aqueous solutions; to determine the reproducibility of interval breath sampling; and to compare carbohydrate malabsorption following ingestion of either regular milk or milk containing Lactobacillus acidophilus. Significant differences in breath hydrogen responses due to increasing amounts of lactose in milk and aqueous solutions were observed. The individual breath hydrogen responses were reproducible using the same lactose dose on different days. There was **no** significant difference in **breath** hydrogen responses or symptoms following administration of either regular milk or milk containing Lactobacillus acidophilus. Breath hydrogen sampling at intervals, as performed in these studies, provides a sensitive and reproducible index of lactose malabsorption.

CC 006.02.04.00.00.
006.08.00.00.00.
006.12.03.00.00.
029.04.03.00.00.
029.07.09.00.00.
029.07.26.00.00.
048.04.02.00.00.

048.05.04.01.00.
CT EMTAGS: methodology (**0130**); diagnosis (**0140**);
major clinical study (0150); small intestine (0941)
Medical Descriptors:
***breath analysis**
*lactose
*malabsorption syndrome
*beta galactosidase deficiency
hydrogen

=> d his

FILE 'MEDLINE' ENTERED AT 08:19:50 ON 12 AUG 1998

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L1          3894 S BREATH TESTS/CT
L2           843 S NITRIC OXIDE (L) AN/CT
L3            64 S L1 AND L2
L4        468560 S C8./CT
L5            30 S L3 AND L4
L6          2237 S GLOTTIS/CT
L7             0 S L3 AND L6
L8             0 S L1 AND L6
L9          8010 S POSITIVE-PRESSURE RESPIRATION/CT
L10         1134 S POSITIVE-PRESSURE RESPIRATION (L) MT/CT
L11            2 S L3 AND L9
L12            1 S L1 AND L10
L13           16 S L1 AND L9
L14           11 S L6 AND L9
L15            3 S L6 AND L10
L16           11 S L14 OR L15
L17         3966 S CARBON()DIOXIDE (L) AN/CT
L18          385 S L1 AND L17
L19            1 S L18 AND L10
L20            7 S L18 AND L9
L21            7 S L19 OR L20
L22          288 S VELUM OR VELLUM
L23            1 S (L18 OR L3) AND L22
L24            0 S L22 AND L10
L25            0 S L22 AND L9
L26            4 S PRESSUR?(9A)L22
L27            8 S CLOS?(3A)L22
L28           11 S L26 OR L27
L29         1402 S SOFT()PALATE
L30         5368 S (NASAL OR NASOPHARYN?)(2A)CAVITY
L31            9 S L1 AND (L29 OR L30)
L32           19 S L28 OR L31
L33           16 S L11 OR L12 OR L13
L34         3273 S (DETECT? OR SENSE# OR SENSING# OR ANALY? OR ANAL# OR AS
L35        12918 S PARTIAL PRESSURE/CT
L36         7990 S (PULMONARY OR LUNG)(3A)GAS
L37          261 S L34 AND L36
L38           10 S L3 AND L34
L39            2 S L5 AND L34
L40           33 S L1 AND L37
L41           10 S L40 AND (L2 OR L17)
L42           18 S L38 OR L39 OR L41
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L43           7 S L34 AND (L21 OR L16 OR L32 OR L33)
L44           5 S L43 NOT L42
L45          46 S L21 OR L16 OR L32 OR L33
L46          25 S L45 AND L1
L47          20 S L45 NOT (L46 OR L42 OR L44)
L48          19 S L46 NOT (L42 OR L44)


     FILE 'EMBASE' ENTERED AT 09:18:48 ON 12 AUG 1998
L49        2160 S BREATH ANALYSIS/CT
L50      708817 S 0130/CT
L51         318 S L49 AND L50
L52        2160 S L34 AND L49
L53        2160 S L49 AND L52
L54         318 S L53 AND L51
L55       20310 S (NITRIC()OXIDE OR NO OR CARBON()DIOXIDE OR CO2 OR GAS?
L56          49 S L54 AND L55
L57        4503 S L22 OR L29 OR L30
L58           0 S L57 AND L56
L59       10472 S PARTIAL()PRESSURE OR PP
L60           2 S L57 AND L59
L61          70 S CLOS?(3A)L57
L62           0 S L61 AND L49
L63           1 S L61 AND L34
L64       12111 S BREATH OR EXHALANT
L65           3 S L61 AND L64
L66           5 S L60 OR L63 OR L65
L67          49 S L56 NOT L66
L68     1401914 S 0140/CT
L69      234741 S 0930/CT
L70          15 S L67 AND L69
L71          27 S L67 AND L68
L72           0 S L59 AND L61
L73        2234 S RESPIRATOR
L74           0 S L61 AND L73
L75           2 S L67 AND PRESSURE
L76          38 S L70 OR L71
L77          19 S (NITRIC()OXIDE OR NO OR CARBON()DIOXIDE OR CO2) AND L76
L78          20 S L75 OR L77
L79          20 S L78 NOT L66
                SAVE L67 WEI420E/A

     FILE 'BIOSIS' ENTERED AT 10:29:10 ON 12 AUG 1998
L80      210205 S 16001/CC
L81      372502 S 10012/CC
L82     1097461 S 12504/CC
L83       36393 S 10504/CC AND L80
L84       10855 S L83 AND L81
L85        2974 S L84 AND L82
L86      191942 S ANALYTICAL()METHOD/ST
L87         535 S 00520/CC AND L85
L88           5 S L86 AND L87
L89       21708 S L55
L90          23 S L89 AND L87

=> d 190 1-23 all
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L90 ANSWER 1 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 97:335859 BIOSIS
DN 99635062
TI New 13C-breath tests to evaluate liver function.
AU Perri F; Niro G; Clemente R; Annese V; Bradley J; Caturelli E; Quitadamo M; Caruso N; Andriulli A
CS Gastroenterol. "C.S.S." Hospital IRCCS, S. Govanni Rotondo, Italy
SO Digestive Disease Week and the 97th Annual Meeting of the American Gastroenterological Association, Washington, D.C., USA, May 11-14, 1997. Gastroenterology 112 (4 SUPPL.). 1997. A1357. ISSN: 0016-5085
DT Conference
LA English
PR Biological Abstracts/RRM Vol. 049 Iss. 008 Ref. 141627
ST MEETING ABSTRACT; HUMAN; PATIENT; **GASTROENTEROLOGY**; CARBON-13-**BREATH** TEST; LIVER FUNCTION; METHODOLOGY; LIVER BIOPSY; CHRONIC HEPATITIS; LIVER CIRRHOSIS; STATISTICAL ANALYSIS; AMINOPYRINE BREATH TEST; PHENYLALANINE BREATH TEST; METHACETIN BREATH TEST; PHENYLALANINE; DIAGNOSTIC-DRUG; METHACETIN; DIAGNOSTIC-DRUG; AMINOPYRINE; DIAGNOSTIC-DRUG; DIAGNOSTIC METHOD; SURGICAL METHOD; DIGESTIVE SYSTEM DISEASE; PHARMACOLOGICAL METHOD
RN 51-66-1 (METHACETIN)
58-15-1 (AMINOPYRINE)
63-91-2 (PHENYLALANINE)
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Mathematical Biology and Statistical Methods *04500
Biochemistry-Gases *10012
Biochemical Methods-General *10050
Biochemical Methods-Minerals *10059
Biochemical Studies-General *10060
Biochemical Studies-Minerals *10069
Biophysics-General Biophysical Techniques *10504
Anatomy and Histology, General and Comparative-Surgery *11105
Pathology, General and Miscellaneous-Diagnostic *12504
Pathology, General and Miscellaneous-Inflammation and Inflammatory Disease *12508
Digestive System-General; Methods *14001
Digestive System-Physiology and Biochemistry *14004
Digestive System-Pathology *14006
Respiratory System-General; Methods *16001
Respiratory System-Physiology and Biochemistry *16004
Respiratory System-Pathology *16006
Pharmacology-Clinical Pharmacology *22005
Pharmacology-Digestive System *22014
Public Health-Public Health Administration and Statistics *37010
Public Health-Health Services and Medical Care *37012
BC Hominidae 86215

L90 ANSWER 2 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 97:280407 BIOSIS
DN 99579610
TI Digestibility of raw and cooked egg protein is accurately evaluated by breath test technique.
AU Evenepoel P; Geypens B; Hiele M; Rutgeerts P; Ghoos Y
CS Cent. GI Res., Univ. Leuven, B-3000 Leuven, Belgium
SO Digestive Disease Week and the 97th Annual Meeting of the American

Gastroenterological Association, Washington, D.C., USA, May 11-14, 1997. Gastroenterology 112 (4 SUPPL.). 1997. A873. ISSN: 0016-5085
DT Conference
LA English
PR Biological Abstracts/RRM Vol. 049 Iss. 007 Ref. 115216
ST MEETING ABSTRACT; HUMAN; HEALTHY VOLUNTEER; PATIENT; DIGESTIVE DISEASE; RAW EGG PROTEIN; ABSORPTION; ASSIMILATION; DIGESTIBILITY; COOKED EGG PROTEIN; RAW EGG; COOKED EGG; **BREATH** TEST TECHNIQUE; METHODOLOGY; NUTRITION; FOODS; **GASTROINTESTINAL** DISEASE; FOOD PROCESSING; SMALL INTESTINE; DIGESTIVE SYSTEM DISEASE; DIAGNOSTIC METHOD; DIGESTIVE SYSTEM
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biochemical Methods-Proteins, Peptides and Amino Acids *10054
Biochemical Studies-Proteins, Peptides and Amino Acids *10064
Biophysics-General Biophysical Techniques *10504
Pathology, General and Miscellaneous-Diagnostic *12504
Metabolism-Proteins, Peptides and Amino Acids *13012
Nutrition-Proteins, Peptides and Amino Acids *13224
Food Technology-Poultry and Eggs *13520
Food Technology-Evaluations of Physical and Chemical Properties *13530
Digestive System-General; Methods *14001
Digestive System-Physiology and Biochemistry *14004
Digestive System-Pathology *14006
Respiratory System-General; Methods *16001
Respiratory System-Physiology and Biochemistry *16004
Respiratory System-Pathology *16006
BC Hominidae 86215

L90 ANSWER 3 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 97:59043 BIOSIS
DN 99358246
TI Exercise limitation in COPD patients with respiratory muscle fatigue.
AU Aisanov Z R; Chuchalin A G; Kalmanova E N; Mamyan V Z
CS Pulmonol. Research Inst., Moscow, Russia
SO Annual Congress European Respiratory Society, Stockholm, Sweden, September 7-11, 1996. European Respiratory Journal Supplement 9 (23). 1996. 389S. ISSN: 0904-1850
DT Conference
LA English
PR Biological Abstracts/RRM Vol. 049 Iss. 002 Ref. 031138
ST MEETING ABSTRACT; MEETING POSTER; HUMAN; PATIENT; PULMONARY MEDICINE; COPD; CHRONIC OBSTRUCTIVE **PULMONARY** DISEASE; MAXIMAL OXYGEN UPTAKE; **CARBON DIOXIDE** PRODUCTION; BREATHING PATTERN PARAMETERS; EXERCISE LIMITATION; RESPIRATORY MUSCLE FATIGUE SYMPTOMS
RN 124-38-9 (CARBON DIOXIDE)
7782-44-7 (OXYGEN)
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques 10504
Physiology, General and Miscellaneous-Exercise and Physical Therapy *12010
Pathology, General and Miscellaneous-Diagnostic 12504

Metabolism-Energy and Respiratory Metabolism *13003
Respiratory System-General; Methods 16001
Respiratory System-Physiology and Biochemistry *16004
Respiratory System-Pathology *16006
Muscle-Pathology *17506
BC Hominidae 86215

L90 ANSWER 4 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 96:297000 BIOSIS
DN 99019356
TI Non invasive evaluation of patients with upper G.I. symptoms: Is endoscopy always necessary?.
AU Perri F; Clemente R; Annese V; Caruso N; Villani M R; Latiano A; Andriulli A
CS Gastroenterology "C.S.S." Hospital IRCCS, S. Giovanni Rotondo, Italy
SO 96th Annual Meeting of the American Gastroenterological Association and the Digestive Disease Week, San Francisco, California, USA, May 19-22, 1996. Gastroenterology 110 (4 SUPPL.). 1996. A33. ISSN: 0016-5085
DT Conference
LA English
PR Biological Abstracts/RRM Vol. 048 Iss. 007 Ref. 113092
ST MEETING ABSTRACT; HUMAN; **GASTRO**-INTESTINAL; UREA **BREATH** TEST; DIAGNOSTIC METHOD
RN 57-13-6 (UREA)
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques *10504
Pathology, General and Miscellaneous-Diagnostic *12504
Metabolism-General Metabolism; Metabolic Pathways *13002
Digestive System-General; Methods *14001
Digestive System-Pathology *14006
Respiratory System-General; Methods *16001
BC Hominidae 86215

L90 ANSWER 5 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 96:96934 BIOSIS
DN 98669069
TI Reliability of the single-breath estimate of total lung capacity: Implications for correction of diffusing capacity for lung volume.
AU McCarthy K; Laskowski D; Arroliga A; Kavuru M
CS Dep. Pulmonary Critical Care Med., Cleveland Clinic Foundation, Cleveland, OH 44195, USA
SO Annual Congress of the European Respiratory Society, Barcelona, Spain, September 16-20, 1995. European Respiratory Journal 8 (SUPPL. 19). 1995. 477S. ISSN: 0903-1936
DT Conference
LA English
PR Biological Abstracts/RRM Vol. 048 Iss. 003 Ref. 044894
ST MEETING ABSTRACT; HUMAN; MULTIPLE **BREATH GAS** DILUTION; PLETHYSMOGRAPHY; DIAGNOSTIC METHOD
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Mathematical Biology and Statistical Methods 04500
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques 10504

Movement 12100
Pathology, General and Miscellaneous-Diagnostic *12504
Respiratory System-General; Methods 16001
Respiratory System-Anatomy 16002
Respiratory System-Physiology and Biochemistry *16004
BC Hominidae 86215

L90 ANSWER 6 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 96:96489 BIOSIS
DN 98668624
TI Decreased exhaled **nitric oxide** reflects **pulmonary** hypertension in patients with systemic sclerosis.
AU Cailes J B; Kharitonov S; Barnes P J; Black C M; Du Bois R M
CS Royal Brompton, London, UK
SO Annual Congress of the European Respiratory Society, Barcelona, Spain, September 16-20, 1995. European Respiratory Journal 8 (SUPPL. 19). 1995. 371S. ISSN: 0903-1936
DT Conference
LA English
PR Biological Abstracts/RRM Vol. 048 Iss. 003 Ref. 044449
ST MEETING ABSTRACT; DOPPLER ECHOCARDIOGRAPHY; COMPUTED TOMOGRAPHY; DIAGNOSTIC METHOD
RN 10102-43-9 (NITRIC OXIDE)
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Methods, Materials and Apparatus, General-Photography 01012
Radiation-Radiation and Isotope Techniques *06504
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques 10504
External Effects-Pressure 10606
Anatomy and Histology, General and Comparative-Radiologic Anatomy 11106
Pathology, General and Miscellaneous-Diagnostic *12504
Metabolism-General Metabolism; Metabolic Pathways *13002
Metabolism-Energy and Respiratory Metabolism *13003
Cardiovascular System-General; Methods 14501
Cardiovascular System-Blood Vessel Pathology *14508
Respiratory System-General; Methods 16001
Respiratory System-Pathology *16006
Bones, Joints, Fasciae, Connective and Adipose Tissue-General; Methods 18001
Bones, Joints, Fasciae, Connective and Adipose Tissue-Pathology *18006
BC Hominidae 86215

L90 ANSWER 7 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 96:95023 BIOSIS
DN 98667158
TI The physiological component of the clinical-radiologic-physiologic (CRP) score and thin section computed tomography (CT) in lone cryptogenic fibrosing alveolitis (CFA): A functional-morphological correlation.
AU Wells A U; Hansell D M; Rubens M B; Du Bois R M
CS Royal Brompton Hosp., London, UK
SO Annual Congress of the European Respiratory Society, Barcelona, Spain, September 16-20, 1995. European Respiratory Journal 8 (SUPPL. 19). 1995. 15S. ISSN: 0903-1936

DT Conference
LA English
PR Biological Abstracts/RRM Vol. 048 Iss. 003 Ref. 042983
ST MEETING ABSTRACT; HUMAN; RESPIRATION; **LUNG** VOLUME; **GAS** EXCHANGE; DISEASE SEVERITY; **PULMONARY** FUNCTION TEST; CHEST RADIOGRAPHY; DIAGNOSTIC METHOD
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Radiation-Radiation and Isotope Techniques *06504
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques *10504
Anatomy and Histology, General and Comparative-Radiologic Anatomy *11106
Chordate Body Regions-Thorax *11312
Pathology, General and Miscellaneous-Diagnostic *12504
Pathology, General and Miscellaneous-Inflammation and Inflammatory Disease *12508
Respiratory System-General; Methods *16001
Respiratory System-Anatomy *16002
Respiratory System-Physiology and Biochemistry *16004
Respiratory System-Pathology *16006
Bones, Joints, Fasciae, Connective and Adipose Tissue-General; Methods *18001
Bones, Joints, Fasciae, Connective and Adipose Tissue-Anatomy *18002
Bones, Joints, Fasciae, Connective and Adipose Tissue-Physiology and Biochemistry *18004
Bones, Joints, Fasciae, Connective and Adipose Tissue-Pathology *18006
BC Hominidae 86215

L90 ANSWER 8 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 96:13700 BIOSIS
DN 98585835
TI A novel technique for contrasting pulmonary vascular response in intact rat lungs and isolated perfused rat lungs.
AU Hyman A L; Hao Q Z; Tower A; Lippton H
CS Tulane Med. Sch., New Orleans, LA, USA
SO 68th Scientific Session of the American Heart Association, Anaheim, California, USA, November 13-16, 1995. Circulation 92 (8 SUPPL.). 1995. I702. ISSN: 0009-7322
DT Conference
LA English
PR Biological Abstracts/RRM Vol. 048 Iss. 001 Ref. 015953
ST MEETING ABSTRACT; HUMAN; INTACT SPONTANEOUSLY BREATHING RAT; **NITRIC OXIDE**; LEFT ATRIAL PRESSURE; **PULMONARY** CIRCULATION; **PULMONARY** VASCULAR RESISTANCE; PULMONARY HYPERTENSION; CARDIOPULMONARY DISEASE; ANIMAL MODEL; DIAGNOSTIC METHOD
RN 10102-43-9 (NITRIC OXIDE)
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biochemical Methods-Proteins, Peptides and Amino Acids *10054
Biochemical Studies-Proteins, Peptides and Amino Acids 10064
Biophysics-General Biophysical Techniques *10504
Movement *12100
Pathology, General and Miscellaneous-Diagnostic *12504

Metabolism-Proteins, Peptides and Amino Acids *13012
Cardiovascular System-General; Methods *14501
Cardiovascular System-Physiology and Biochemistry *14504
Cardiovascular System-Heart Pathology *14506
Cardiovascular System-Blood Vessel Pathology *14508
Blood, Blood-Forming Organs and Body Fluids-General; Methods *15001
Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies *15002
Blood, Blood-Forming Organs and Body Fluids-Blood, Lymphatic and Reticuloendothelial Pathologies *15006
Respiratory System-General; Methods *16001
Respiratory System-Physiology and Biochemistry *16004
Respiratory System-Pathology *16006
Endocrine System-Neuroendocrinology *17020
Nervous System-General; Methods *20501
Nervous System-Physiology and Biochemistry *20504
Nervous System-Pathology *20506
Laboratory Animals-General 28002
BC Hominidae 86215
Muridae 86375

L90 ANSWER 9 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 95:94613 BIOSIS
DN 98108913
TI Dose-response of **NO** on the **lung** circulation in patients with chronic pulmonary embolism.
AU Jorfeldt L; Gustavsson L; Larsen F; Juhlin-Dannfelt A; Broman M; Walter H; Holmgren A
CS Dep. Thoracic Physiol. Lung. Med., Karolinska Hosp., Stockholm, Sweden
SO Meeting of the European Respiratory Society (ERS), Nice, France, October 1-October 5, 1994. European Respiratory Journal 7 (SUPPL. 18). 1994. 105S. ISSN: 0903-1936
DT Conference
LA English
PR Biological Abstracts/RRM Vol. 047 Iss. 003 Ref. 043275
ST MEETING ABSTRACT; NITRIC OXIDE; VENTILATION-PERFUSION SCINTIGRAPHY; ANGIOGRAPHY; DIAGNOSTIC METHOD
RN 10102-43-9 (NITRIC OXIDE)
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Methods, Materials and Apparatus, General-Photography 01012
Radiation-Radiation and Isotope Techniques *06504
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques 10504
Anatomy and Histology, General and Comparative-Radiologic Anatomy 11106
Movement 12100
Pathology, General and Miscellaneous-Diagnostic *12504
Cardiovascular System-General; Methods 14501
Cardiovascular System-Physiology and Biochemistry 14504
Cardiovascular System-Blood Vessel Pathology *14508
Blood, Blood-Forming Organs and Body Fluids-General; Methods 15001
Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies 15002
Blood, Blood-Forming Organs and Body Fluids-Blood, Lymphatic and Reticuloendothelial Pathologies *15006

Respiratory System-General; Methods 16001
Respiratory System-Physiology and Biochemistry 16004
Respiratory System-Pathology *16006
Pharmacology-Clinical Pharmacology *22005
Pharmacology-Blood and Hematopoietic Agents *22008
Pharmacology-Integumentary System, Dental and Oral Biology *22020
Pharmacology-Respiratory System *22030
BC Hominidae 86215

L90 ANSWER 10 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 94:2382 BIOSIS
DN 97015382
TI Determination of 13C-labelled CO-2: A new application of non-dispersive infrared spectroscopy.
AU Haisch M; Hering P; Wendel U; Broesicke H; Schadewaldt P
CS Inst. Lasermedizin, Klinderklinik, Heinrich-Heine-Univ. Duesseldorf, Moorestrasse 5, W-4000 Duesseldorf 1, GER
SO Annual Autumn Meeting of the Gesellschaft fuer Biologische Chemie (Society for Biological Chemistry), Duesseldorf, Germany, September 12-15, 1993. Biological Chemistry Hoppe-Seyler 374 (9). 1993. 688. ISSN: 0177-3593
DT Conference
LA English
ST MEETING ABSTRACT; HUMAN; NON-INVASIVE CARBON-13 **CARBON DIOXIDE BREATH** TEST DEVELOPMENT; METABOLIC DISTURBANCE APPLICATIONS; METHOD
RN 58561-67-4 (LABELLED CO-2)
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Radiation-Radiation and Isotope Techniques *06504
Biochemistry-Gases *10012
Biochemical Methods-General *10050
Biochemical Studies-General *10060
Biophysics-General Biophysical Techniques *10504
Biophysics-Molecular Properties and Macromolecules *10506
Pathology, General and Miscellaneous-Diagnostic *12504
Metabolism-Metabolic Disorders 13020
Respiratory System-General; Methods *16001
Respiratory System-Physiology and Biochemistry *16004
Dental and Oral Biology-General; Methods *19001
Developmental Biology-Embryology-Pathological 25503
BC Hominidae 86215

L90 ANSWER 11 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 93:515958 BIOSIS
DN BR45:114583
TI CAPNOGRAM REFLECTS THE SEVERITY OF ACUTE LUNG INJURY IN A SURFACTANT DEPLETION MODEL.
AU MCRAE K M; NEUFELD G R
CS DEP. ANESTHESIA, UNIV. PENNSYLVANIA, PHILADELPHIA, PA 19104, USA.
SO ANNUAL MEETING OF THE AMERICAN SOCIETY OF ANESTHESIOLOGISTS, WASHINGTON, D.C., USA, OCTOBER 9-13, 1993. ANESTHESIOLOGY 79 (3A). 1993. A291. CODEN: ANESAV ISSN: 0003-3022
DT Conference
LA English
ST ABSTRACT RABBIT ALVEOLATED AIRWAY **GAS** EXCHANGE **LUNG** VOLUME

CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques *10504
External Effects-Physical and Mechanical Effects *10612
Pathology, General and Miscellaneous-Diagnostic *12504
Respiratory System-General; Methods *16001
Respiratory System-Physiology and Biochemistry *16004
Respiratory System-Pathology *16006
BC Leporidae 86040

L90 ANSWER 12 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 93:134402 BIOSIS
DN BR44:65402
TI A VERSATILE SYSTEM FOR SINGLE-**BREATH** INHALATION OR REBREATHING OF **GASES** LABELLED WITH OXYGEN-15 FLUORINE-18 OR CARBON-11.
AU WAGNER R; ARENZ W; RICHERZHAGEN N; WIENHARD K
CS MAX PLANCK INST. NEUROLOGISCHE FORSCHUNG KOELN, GLEUELER STR. 50, D-5000 KOELN 41, GERMANY.
SO IXTH INTERNATIONAL SYMPOSIUM ON RADIOPHARMACEUTICAL CHEMISTRY, PARIS, FRANCE, APRIL 6-10, 1992. J LABELLED COMPD RADIOPHARM 32 (0). 1993. 456-458. CODEN: JLCRD4 ISSN: 0362-4803
DT Conference
LA English
ST ABSTRACT HUMAN DIAGNOSTIC ADMINISTRATION APPARATUS POSITRON EMISSION TOMOGRAPHY
RN 13981-56-1 (FLUORINE-18)
13982-43-9 (OXYGEN-15)
14333-33-6 (CARBON-11)
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Methods, Materials and Apparatus, General-Laboratory Apparatus *01006
Radiation-Radiation and Isotope Techniques *06504
Biochemistry-Gases 10012
Biochemical Studies-General 10060
Biophysics-General Biophysical Techniques *10504
Pathology, General and Miscellaneous-Diagnostic *12504
Respiratory System-General; Methods *16001
Routes of Immunization, Infection and Therapy *22100
BC Hominidae 86215

L90 ANSWER 13 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 91:333473 BIOSIS
DN BR41:30023
TI EFFECT OF BRONCHOALVEOLAR LAVAGE ON **GAS** EXCHANGE IN PATIENTS WITH DIFFUSE **LUNG** DISEASE AND RESPIRATORY FAILURE.
AU SHAPIRO J M; PEDERSEN K L; COLE R P
CS COLUMBIA UNIV., NEW YORK, N.Y.
SO INTERNATIONAL CONFERENCE OF THE AMERICAN LUNG ASSOCIATION AND THE AMERICAN THORACIC SOCIETY, ANAHEIM, CALIFORNIA, USA, MAY 12-15, 1991. AM REV RESPIR DIS 143 (4 PART 2). 1991. A484. CODEN: ARDSBL ISSN: 0003-0805
DT Conference
LA English
ST ABSTRACT HUMAN HEMODYNAMICS MECHANICAL VENTILATION FIBEROPTIC

BRONCHOSCOPY
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques 10504
Pathology, General and Miscellaneous-Diagnostic *12504
Pathology, General and Miscellaneous-Therapy *12512
Metabolism-Energy and Respiratory Metabolism *13003
Cardiovascular System-Physiology and Biochemistry *14504
Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies *15002
Respiratory System-General; Methods *16001
Respiratory System-Pathology *16006
BC Hominidae 86215

L90 ANSWER 14 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 91:313110 BIOSIS
DN BR41:21700
TI CARDIAC OUTPUT DETERMINATION DURING PROGRESSIVE EXERCISE IN CYSTIC FIBROSIS CF.
AU LANDS L C; HEIGENHAUSER G J F; JONES N L
CS MCMASTER UNIV. MED. CENTER, HAMILTON, CAN. L8N 3Z5.
SO 1991 INTERNATIONAL CONFERENCE OF THE AMERICAN LUNG ASSOCIATION AND THE AMERICAN THORACIC SOCIETY, ANAHEIM, CALIFORNIA, USA, MAY 12-15, 1991. AM REV RESPIR DIS 143 (4 PART 2). 1991. A294. CODEN: ARDSBL ISSN: 0003-0805
DT Conference
LA English
ST ABSTRACT HUMAN **LUNG** DISEASE **CARBON DIOXIDE** REBREATHING INDIRECT FICK TECHNIQUE CARDIOPULMONARY INTERACTION
RN 124-38-9 (CARBON DIOXIDE)
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Genetics and Cytogenetics-Human *03508
Biochemistry-Gases *10012
Biochemical Studies-General 10060
Biophysics-General Biophysical Techniques 10504
Physiology, General and Miscellaenous-Exercise and Physical Therapy *12010
Pathology, General and Miscellaneous-Diagnostic *12504
Metabolism-Metabolic Disorders *13020
Digestive System-Pathology 14006
Cardiovascular System-General; Methods *14501
Urinary System and External Secretions-Pathology 15506
Respiratory System-General; Methods *16001
Respiratory System-Pathology *16006
Endocrine System-Pancreas 17008
Developmental Biology-Embryology-Pathological *25503
BC Hominidae 86215

L90 ANSWER 15 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 91:312272 BIOSIS
DN BR41:20862
TI EXERCISE TOLERANCE IN UNTRAINED COPD PATIENTS IS NOT LIMITED BY VENTILATION.
AU MAKE B J; BUCHHOLZ J

CS PULMONARY SECTION, NATIONAL JEWISH CENT. IMMUNOL. RESPIRATORY MED., UNIV. COLORADO, DENVER, COLO.
SO 1991 INTERNATIONAL CONFERENCE OF THE AMERICAN LUNG ASSOCIATION AND THE AMERICAN THORACIC SOCIETY, ANAHEIM, CALIFORNIA, USA, MAY 12-15, 1991. AM REV RESPIR DIS 143 (4 PART 2). 1991. A78. CODEN: ARDSBL ISSN: 0003-0805
DT Conference
LA English
ST ABSTRACT HUMAN CARDIAC EFFECT ARTERIAL BLOOD **GASES** CHRONIC OBSTRUCTIVE **PULMONARY** DISEASE ELECTROCARDIOGRAPHY
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques 10504
Physiology, General and Miscellaenous-Exercise and Physical Therapy *12010
Pathology, General and Miscellaneous-Diagnostic *12504
Metabolism-Energy and Respiratory Metabolism *13003
Cardiovascular System-General; Methods 14501
Cardiovascular System-Physiology and Biochemistry *14504
Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies *15002
Respiratory System-General; Methods 16001
Respiratory System-Pathology *16006
BC Hominidae 86215

L90 ANSWER 16 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 90:531183 BIOSIS
DN BR39:131681
TI PREOPERATIVE BETA-BLOCKADE PREVENTS POSTOPERATIVE ELEVATIONS IN TOTAL BODY OXYGEN CONSUMPTION.
AU ZELEN J; BILFINGER T V
CS STATE UNIV. NEW YORK, STONY BROOK.
SO ACCP'S (AMERICAN COLLEGE OF CHEST PHYSICIANS) 56TH ANNUAL SCIENTIFIC ASSEMBLY, TORONTO, ONTARIO, CANADA, OCTOBER 22-26, 1990. CHEST 98 (2 SUPPL.). 1990. 70S. CODEN: CHETBF ISSN: 0012-3692
DT Conference
LA English
ST ABSTRACT HUMAN CARDIOVASCULAR PHARMACOTHERAPY CORONARY ARTERY DISEASE CARDIOPULMONARY BYPASS **PULMONARY GAS** SAMPLE LIGHT SPECTROPHOTOMETRY
RN 7782-44-7 (OXYGEN)
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques 10504
Anatomy and Histology, General and Comparative-Surgery *11105
Pathology, General and Miscellaneous-Diagnostic *12504
Pathology, General and Miscellaneous-Therapy *12512
Metabolism-Energy and Respiratory Metabolism *13003
Cardiovascular System-Heart Pathology *14506
Cardiovascular System-Blood Vessel Pathology *14508
Respiratory System-General; Methods 16001
Pharmacology-Clinical Pharmacology *22005
Pharmacology-Cardiovascular System *22010
BC Hominidae 86215

L90 ANSWER 17 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 89:282631 BIOSIS
DN BR37:7628
TI DISTRIBUTION OF REGIONAL **LUNG-GAS** VOLUME VS. **PULMONARY** TISSUE ATTENUATION IN HUMANS EFFECTS OF LUNG INFLATION HYDROSTATIC PRESSURE AND CHEST WALL TISSUE DENSITY.
AU SILVER J A; GROTH M L; BERGOFSKY E H; FOSTER W M
CS PULMONARY DIS. DIV., VAMC, STONY BROOK.
SO ANNUAL MEETING OF THE AMERICAN LUNG ASSOCIATION AND THE AMERICAN THORACIC SOCIETY, CINCINNATI, OHIO, USA, MAY 14-17, 1989. AM REV RESPIR DIS 139 (4 PART 2). 1989. A104. CODEN: ARDSBL ISSN: 0003-0805
DT Conference
LA English
ST ABSTRACT FUNCTIONAL RESIDUAL CAPACITY TOTAL LUNG CAPACITY TWO-DIMENSIONAL IMAGING TECHNETIUM TRANSMISSION SCAN
RN 7440-26-8 (TECHNETIUM)
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Methods, Materials and Apparatus, General-Photography 01012
Radiation-Radiation and Isotope Techniques *06504
Biochemistry-Gases *10012
Biochemical Studies-Minerals 10069
Biophysics-General Biophysical Techniques 10504
External Effects-Pressure 10606
Anatomy and Histology, General and Comparative-Radiologic Anatomy 11106
Chordate Body Regions-Thorax 11312
Pathology, General and Miscellaneous-Diagnostic *12504
Metabolism-Energy and Respiratory Metabolism *13003
Respiratory System-General; Methods 16001
Respiratory System-Physiology and Biochemistry *16004
BC Hominidae 86215

L90 ANSWER 18 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 89:88966 BIOSIS
DN BR36:45057
TI INCIDENCE OF SLEEP BREATHING PATTERN ON THE PROFILE OF THE OXYGEN SATURATION WITH RESPECT TO TIME DIAGRAM.
AU AUBRY P; JOUNIEAUX V; ROSE D; LEVIVALENSI P
CS SERV. PNEUMOL., C.H.U., 80030 AMIENS CEDEX, FR.
SO SYMPOSIUM ON LUNG AND INFECTION PREVENTION AND SCREENING HELD AT THE 7TH CONGRESS OF THE EUROPEAN SOCIETY OF PNEUMOLOGY, BUDAPEST, HUNGARY, SEPTEMBER 5-9, 1988. EUR RESPIR J 1 (SUPPL. 2). 1988. 229S. CODEN: ERJOEI
DT Conference
LA English
ST ABSTRACT HUMAN **CARBON DIOXIDE** SLEEP APNEA SYNDROME CHRONIC OBSTRUCTIVE **PULMONARY** DISEASE POLYSOMNOGRAPHY
RN 124-38-9 (CARBON DIOXIDE)
7782-44-7 (OXYGEN)
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Behavioral Biology-Human Behavior 07004
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques *10504
Pathology, General and Miscellaneous-Diagnostic 12504

Metabolism-General Metabolism; Metabolic Pathways *13002
Respiratory System-General; Methods 16001
Respiratory System-Physiology and Biochemistry *16004
Respiratory System-Pathology *16006
Nervous System-Physiology and Biochemistry *20504
Psychiatry-General; Medical Psychology and Sociology *21001
BC Hominidae 86215

L90 ANSWER 19 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 89:66342 BIOSIS
DN BR36:33133
TI DIAGNOSTIC MANAGEMENT OF PULMONARY EMBOLISM.
AU BROCHIER M L
CS CARDIOLOGY DEP., UNIV. HOSP., 37044 TOURS, FRANCE.
SO INTERNATIONAL SYMPOSIUM ON RECENT ADVANCES IN THE CLINICAL MANAGEMENT OF THROMBOEMBOLIC DISEASES, DUESSELDORF, WEST GERMANY, OCTOBER 20-22, 1988. THROMB RES 0 (SUPPL. 6). 1988. 43-46. CODEN: THBRAA ISSN: 0049-3848
LA English
ST HUMAN VENOUS ECHOGRAPHY DOPPLER ULTRASOUND IMPEDANCE PLETHYSMOGRAPHY CHEST X-RAY ARTERIAL BLOOD **GAS** PERFUSION **LUNG** SCANNING VENTILATION-PERFUSION **LUNG** SCAN PULMONARY ANGIOGRAPHY ECHOCARDIOGRAPHY VENOGRAPHY VENOCAVOGRAPHY POST-MORTEM STUDIES
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
General Biology-Forensic Science *00531
Radiation-Radiation and Isotope Techniques *06504
Clinical Biochemistry; General Methods and Applications *10006
Biochemistry-Gases 10012
Biophysics-General Biophysical Techniques 10504
Anatomy and Histology, General and Comparative-Radiologic Anatomy *11106
Chordate Body Regions-Thorax 11312
Pathology, General and Miscellaneous-Diagnostic *12504
Pathology, General and Miscellaneous-Therapy *12512
Cardiovascular System-General; Methods *14501
Cardiovascular System-Blood Vessel Pathology *14508
Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies *15002
Respiratory System-General; Methods *16001
Respiratory System-Pathology *16006
BC Hominidae 86215

L90 ANSWER 20 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 88:471611 BIOSIS
DN BR35:101501
TI DOES POSITIVE END-EXPIRATORY PRESSURE PEEP AFFECT THE NATURAL HISTORY OF ACUTE **LUNG** INJURY **NO**.
AU BOYSEN P G
CS BOX J-254, JHMHC, GAINESVILLE, FLA. 32610.
SO CONFERENCE ON POSITIVE END-EXPIRATORY PRESSURE, PART 1, IXTAPA, MEXICO, NOVEMBER 19-21, 1987. RESPIR CARE 33 (6). 1988. 493-501. CODEN: RECACP
LA English
ST HUMAN ADULT RESPIRATORY DISTRESS SYNDROME OXYGENATION
CC **General Biology-Symposia, Transactions and Proceedings of**

Conferences, Congresses, Review Annuals 00520
Biochemistry-Gases *10012
Biochemical Studies-General 10060
Biophysics-General Biophysical Techniques 10504
External Effects-Pressure *10606
Pathology, General and Miscellaneous-Diagnostic *12504
Pathology, General and Miscellaneous-Therapy *12512
Metabolism-Energy and Respiratory Metabolism *13003
Respiratory System-General; Methods *16001
Respiratory System-Pathology *16006
BC Hominidae 86215

L90 ANSWER 21 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 88:456408 BIOSIS
DN BR35:97288
TI EVALUATION OF THE MGC 2001 SYSTEM FOR MEASURING **BREATH**-BY-**BREATH** VENTILATION AND **GAS** EXCHANGE.
AU HILL J E; MERCHANT S; WARREN P M; FLENLEY D C
CS RAYNE LAB., DEP. RESPIR. MED., UNIV. EDINBURGH, CITY HOSP., EDINBURGH, UK.
SO WINTER MEETING OF THE MEDICAL RESEARCH SOCIETY, LONDON, ENGLAND, UK, DECEMBER 10-11, 1987. CLIN SCI (LOND) 74 (SUPPL. 18). 1988. 3P. CODEN: CSCIAE ISSN: 0143-5221
DT Conference
LA English
ST ABSTRACT HUMAN RESPIRATORY DISEASE EXERCISE MEDICAL GRAPHICS CORPORATION
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biophysics-General Biophysical Techniques *10504
Physiology, General and Miscellaenous-Exercise and Physical Therapy *12010
Pathology, General and Miscellaneous-Diagnostic *12504
Metabolism-Energy and Respiratory Metabolism *13003
Respiratory System-General; Methods *16001
Respiratory System-Pathology *16006
BC Hominidae 86215

L90 ANSWER 22 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 81:61471 BIOSIS
DN BR20:61471
TI COMPARATIVE STUDIES ON CENTRAL CHEMO SENSITIVITY IN CAT AND IN MAN.
AU SCHLAEFKE M E; WIERICH W; KILLE J F
CS INST. F. PHYSIOL., AG PHYSIOL. DER REGULATION, POSTFACH 102148, D-4630 BOCHUM.
SO 53RD MEETING OF DEUTSCHE PHYSIOLOGISCHE GESELLSCHAFT (GERMAN PHYSIOLOGICAL SOCIETY), KIEL, WEST GERMANY, MARCH 18-21, 1980. PFLUEGERS ARCH EUR J PHYSIOL 384 (SUPPL.). 1980. R30. CODEN: PFLABK ISSN: 0031-6768
DT Conference
LA English
ST ABSTRACT RESPIRATORY DRIVE BRAIN STEM GLIAL CELL PARAGIGANTO CELLULAR NUCLEUS ARCUATE NUCLEUS MACROPHAGE ALVEOLUS **LUNG** ARTERY MEDULLA BLOOD **GAS** SUDDEN INFANT DEATH SYNDROME HYPO VENTILATION SLEEP APNEA PICKWICKIAN SYNDROME
CC **General Biology-Symposia, Transactions and Proceedings of**

Conferences, Congresses, Review Annuals 00520
Cytology and Cytochemistry-Animal *02506
Behavioral Biology-Human Behavior *07004
Biochemistry-Gases 10012
Biophysics-General Biophysical Techniques 10504
Anatomy and Histology, General and Comparative-Comparative Anatomy 11103
Anatomy and Histology, General and Comparative-Experimental Anatomy 11104
Physiology, General and Miscellaneous-Comparative *12003
Pathology, General and Miscellaneous-Diagnostic 12504
Pathology, General and Miscellaneous-Necrosis 12510
Nutrition-Malnutrition; Obesity 13203
Cardiovascular System-General; Methods 14501
Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies 15002
Respiratory System-General; Methods 16001
Respiratory System-Physiology and Biochemistry *16004
Respiratory System-Pathology *16006
Sense Organs, Associated Structures and Functions-Physiology and Biochemistry *20004
Nervous System-General; Methods 20501
Nervous System-Physiology and Biochemistry *20504
Nervous System-Pathology *20506
Psychiatry-Psychopathology; Psychodynamics and Therapy *21002
Psychiatry-Psychophysiology *21003
Pediatrics *25000
BC Felidae 85770
Hominidae 86215

L90 ANSWER 23 OF 23 BIOSIS COPYRIGHT 1998 BIOSIS
AN 80:92589 BIOSIS
DN BR19:30087
TI TISSUE OXYGEN PARTIAL PRESSURE MONITORING A NEW METHOD IN THE CARE OF THE CRITICALLY ILL PATIENT.
AU SCHOENLEBEN K; HAUSS J P; SPIEGEL U; BUENTE H; KESSLER M
CS CHIR. UNIVERSITAETSKLIN., ALLGEMEINCHIR., JUNGEBLODTPL. 1, 4400 MUENSTER, W. GER.
SO TAVARES, B. M. AND R. FREY (ED.). ANAESTHESIOLOGIE UND INTENSIVMEDIZIN, ANAESTHESIOLOGY AND INTENSIVE CARE MEDICINE, VOL. 116. ACUTE CARE; PROCEEDINGS OF THE 6TH INTERNATIONAL SYMPOSIUM, XVI+345P. SPRINGER-VERLAG: NEW YORK, N.Y., USA; BERLIN, WEST GERMANY. ILLUS. PAPER. 0 (0). 1979. P29-33. CODEN: ANIMD2 ISBN: 0-387-09210-2; 3-540-09210-2 ISSN: 0171-1814
LA English
ST SKELETAL MUSCLE CARDIOVASCULAR-DRUG VOLUME DEFICIENCY **GASTRO** INTESTINAL HEMORRHAGE ANOXIA SHOCK **LUNG** VENTILATION PATHOLOGY MICRO CIRCULATION
RN 7782-44-7 (OXYGEN)
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biochemical Studies-General 10060
Biophysics-General Biophysical Techniques 10504
Pathology, General and Miscellaneous-Diagnostic 12504
Digestive System-Pathology 14006
Cardiovascular System-Physiology and Biochemistry *14504

Cardiovascular System-Blood Vessel Pathology *14508
Blood, Blood-Forming Organs and Body Fluids-Blood, Lymphatic and Reticuloendothelial Pathologies 15006
Respiratory System-General; Methods *16001
Respiratory System-Physiology and Biochemistry *16004
Respiratory System-Pathology *16006
Muscle-Physiology and Biochemistry 17504
Pharmacology-Cardiovascular System *22010
BC Hominidae 86215

=> d his l90-

(FILE 'BIOSIS' ENTERED AT 10:29:10 ON 12 AUG 1998)
L90 23 S L89 AND L87
L91 48 S L61
L92 0 S L87 AND L91
L93 3 S L91 AND L89

=> d l93 bib abs

L93 ANSWER 1 OF 3 BIOSIS COPYRIGHT 1998 BIOSIS
AN 98:219999 BIOSIS
DN 01219999
TI Production and absorption of nitric oxide gas in the nose.
AU Dubois A B; Douglas J S; Stitt J T; Mohsenin V
CS c/o John B. Pierce Lab., 290 Congress Ave., New Haven, CT 06519, USA
SO Journal of Applied Physiology 84 (4). 1998. 1217-1224. ISSN: 8750-7587
LA English
AB Some nitric oxide gas (NO) produced in the sinuses and nasal cavity is absorbed before leaving the nose. To measure production and absorption, we introduced NO at different concentrations into one nostril while sampling the NO leaving the opposite nostril with the **soft palate closed**. The quantity of NO gas produced in six normal subjects (amount leaving plus the amount absorbed) averaged 352 ml/min and was the same at gas flows ranging from 8 to 347 ml/min and at 10 l/min. An absorption coefficient A was calculated by dividing the amount of NO absorbed by the concentration leaving the nose. A ranged from 17 ml/min at a nasal gas flow of 8 ml/min to an A of 24 ml/min at a nasal gas flow of 347 ml/min. The calculated rates of production and absorption did not change when gas flow rate was increased, suggesting diffusion equilibrium. The amount of uptake of NO in the nasal mucosa can be explained by its solubility coupled with tissue and blood reactivity.

=> d l93 2-3 bib abs

L93 ANSWER 2 OF 3 BIOSIS COPYRIGHT 1998 BIOSIS
AN 97:359361 BIOSIS
DN 99665764
TI Nasal contribution to exhaled nitric oxide during exhalation against resistance or during breath holding.
AU Kharitonov S A; Barnes P J
CS Dep. Thoracic Med., Natl. Heart Lung Inst., Imperial Sch. Med., Dovehouse St., London SW3 6LY, UK
SO Thorax 52 (6). 1997. 540-544. ISSN: 0040-6376
LA English

AB Background: The concentration of nitric oxide (NO) is increased in the exhaled air of patients with inflammation of the airways, suggesting that this may be a useful measurement to monitor inflammation in diseases such as asthma. However, there have been concerns that exhaled NO may be contaminated by the high concentrations of NO derived from the upper airways, and that this may account for differences in reported values of exhaled NO using different techniques. A study was performed, with argon as a tracer, to determine the extent of nasal contamination of exhaled NO using different expiratory manoeuvres. Methods: Exhaled and nasal NO were measured by a chemiluminescence analyser. Argon (4.8%) was delivered continuously to the nose. Gas was sampled from the posterior oropharynx and argon and carbon dioxide were measured by mass spectrometry at the same time as NO. Results: During a single expiration against a low resistance and during **breath** holding there was **no** evidence for nasal contamination, whereas during exhalation without resistance argon concentration in the oropharynx was increased from 0.91% (95% CI 0.84% to 0.98%) in ambient air to 1.28% (0.9% to 2.24%, p lt 0.0001) during a single breath or 2.37% (2.29% to 2.51%, p lt 0.0001) during tidal breathing. Conclusions: Collection of exhaled NO in a reservoir during tidal breathing is likely to be contaminated by NO derived from the nose and this may underestimate any increases in NO derived from the lower respiratory tract in inflammatory diseases. However, with slow expiration against a resistance and created back pressure to **close** the **soft palate**, there is no contamination of exhaled air which then reflects concentrations of NO in the lower airways.

L93 ANSWER 3 OF 3 BIOSIS COPYRIGHT 1998 BIOSIS
AN 97:117347 BIOSIS
DN 99416550
TI Marked flow-dependence of exhaled nitric oxide using a new technique to exclude nasal nitric oxide.
AU Silkoff P E; McClean P A; Slutsky A S; Furlott H G; Hoffstein E; Wakita S; Chapman K R; Szalai J P; Zamel N
CS Mt. Sinai Hosp., Rm. 656, 600 University Avenue, Toronto, ON M5G 1X5, Canada
SO American Journal of Respiratory and Critical Care Medicine 155 (1). 1997. 260-267. ISSN: 1073-449X
LA English
AB Exhaled **nitric oxide** (**NO**) may aid in monitoring **pulmonary** disease. The single-**breath** **NO** profile (subjects with nose clip) was described as a NO peak followed by a plateau (NO-PLAT). Published exhaled NO values vary greatly, possibly due to contamination with nasal NO and differing respiratory maneuvers. We developed a technique to measure **pulmonary NO**, without nasal **NO**, by having the subject maintain a positive expiratory pressure (ensuring **vellum closure**), and we examined the variation in NO-PLAT over a range of expiratory flows (4.2 to 1,550 ml/s). NO-PLAT values rose almost 35-fold (3.2 +- 1.4 ppb to 110.5 +- 54.8 ppb) with decreasing flow, described by NO-PLAT = 208.6795 times (flow rate)-0.5995. However, NO excretion showed an almost 11-fold rise as flow increased. In summary, we present a simple technique for measuring exhaled NO without contamination by nasal NO. There is a marked flow dependence of exhaled **NO** concentration and

excretion. Exhaled **pulmonary NO** is best measured at very low flow rates to amplify the signal and must be related to the expiratory flow employed.

=> d l88 1-5 all

L88 ANSWER 1 OF 5 BIOSIS COPYRIGHT 1998 BIOSIS
AN 97:479738 BIOSIS
DN 99778941
TI Correlation between exercise capacity, gas exchange measurements and myosin heavy chain shift in the skeletal muscle of patients with heart failure.
AU Vescovo G; Dalla Libera L; Serafini F; Facchin L; Tenderini P; Leprotti C; Ambrosio G B
CS CNR Unit Pathophysiol., Univ. Padua, Padua, Italy
SO XIXth Congress of the European Society of Cardiology together with the 32nd Annual General Meeting of the Association of European Paediatric Cardiologists (AEPC), Stockholm, Sweden, August 24-28, 1997. European Heart Journal 18 (ABSTR. SUPPL.). 1997. 289. ISSN: 0195-668X
DT Conference
LA English
PR Biological Abstracts/RRM Vol. 049 Iss. 011 Ref. 202738
ST MEETING ABSTRACT; MEETING POSTER; HUMAN; PATIENT; CARDIOVASCULAR MEDICINE; SKELETAL MUSCLE; CONGESTIVE HEART FAILURE; GASTROCNEMIUS MUSCLE; MYOSIN HEAVY CHAIN; CARDIOPULMONARY EXERCISE TESTING; ELECTROPHORESIS; LASER DENSITOMETRY; SCHILLER CS 100 CARDIOVIT CAPNOGRAPH; CAPNOGRAPHY; EXERCISE CAPACITY; RESPIRATORY GAS EXCHANGE; MUSCULAR SYSTEM; COMPOSITION; HEART DISEASE; MODIFIED NAUGHTON PROTOCOL; DIAGNOSTIC METHOD; **ANALYTICAL METHOD**; MEDICAL EQUIPMENT
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Biochemistry-Gases *10012
Biochemical Methods-Proteins, Peptides and Amino Acids *10054
Biochemical Studies-General *10060
Biochemical Studies-Proteins, Peptides and Amino Acids *10064
Biophysics-General Biophysical Techniques *10504
Biophysics-Molecular Properties and Macromolecules *10506
Physiology, General and Miscellaneous-Exercise and Physical Therapy *12010
Pathology, General and Miscellaneous-Diagnostic *12504
Cardiovascular System-Heart Pathology *14506
Respiratory System-General; Methods *16001
Respiratory System-Physiology and Biochemistry *16004
Muscle-Physiology and Biochemistry *17504
BC Hominidae 86215

L88 ANSWER 2 OF 5 BIOSIS COPYRIGHT 1998 BIOSIS
AN 97:335862 BIOSIS
DN 99635065
TI 13C-methacetin breath test by using an isotope-selective non-dispersive infrared spectrometer: Normal values, influence of age and gender and intraindividual reproducibility.
AU Pfaffenbach B; Goetze O; Adamek R J
CS Dep. Med., St. Josef-Hospital, Ruhr-Univ., 44791 Bochum, Germany
SO Digestive Disease Week and the 97th Annual Meeting of the American

Gastroenterological Association, Washington, D.C., USA, May 11-14, 1997. Gastroenterology 112 (4 SUPPL.). 1997. A1358. ISSN: 0016-5085
DT Conference
LA English
PR Biological Abstracts/RRM Vol. 049 Iss. 008 Ref. 141630
ST MEETING ABSTRACT; HUMAN; ADULT; HEALTHY SUBJECT; MIDDLE AGE; MALE; FEMALE; AGED; CARBON-13-METHACETIN BREATH TEST; ISOTOPE-SELECTIVE NON-DISPERSIVE IR SPECTROMETER; ISOTOPE-SELECTIVE NON-DISPERSIVE IR SPECTROMETRY; NORMAL VALUES; AGE; GENDER; INTRAINDIVIDUAL REPRODUCIBILITY; DIGESTIVE DISEASE; METHODOLOGY; STATISTICAL ANALYSIS; LIVER FUNCTION; OXIDASE; HEPATIC MIXED FUNCTION ACTIVITY; PHARMACOLOGICAL METHOD; **ANALYTICAL METHOD**; EQUIPMENT; RADIOLOGIC METHOD; DIGESTIVE SYSTEM DISEASE
RN 9035-73-8 (OXIDASE)
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Genetics and Cytogenetics-Sex Differences *03510
Mathematical Biology and Statistical Methods *04500
Radiation-Radiation and Isotope Techniques *06504
Biochemistry-Gases *10012
Biochemical Methods-General *10050
Biochemical Methods-Proteins, Peptides and Amino Acids *10054
Biochemical Methods-Minerals *10059
Biochemical Studies-General *10060
Biochemical Studies-Proteins, Peptides and Amino Acids *10064
Biochemical Studies-Minerals *10069
Biophysics-General Biophysical Techniques *10504
Enzymes-Methods *10804
Enzymes-Physiological Studies *10808
Anatomy and Histology, General and Comparative-Radiologic Anatomy *11106
Pathology, General and Miscellaneous-Diagnostic *12504
Metabolism-Proteins, Peptides and Amino Acids *13012
Digestive System-General; Methods *14001
Digestive System-Physiology and Biochemistry *14004
Digestive System-Pathology *14006
Respiratory System-General; Methods *16001
Respiratory System-Physiology and Biochemistry *16004
Respiratory System-Pathology *16006
Reproductive System-General; Methods *16501
Reproductive System-Physiology and Biochemistry *16504
Pharmacology-Clinical Pharmacology *22005
Pharmacology-Digestive System *22014
Pharmacology-Respiratory System *22030
Gerontology *24500
Developmental Biology-Embryology-Morphogenesis, General *25508
Public Health-Public Health Administration and Statistics *37010
Public Health-Health Services and Medical Care *37012
BC Hominidae 86215

L88 ANSWER 3 OF 5 BIOSIS COPYRIGHT 1998 BIOSIS
AN 94:92152 BIOSIS
DN 97105152
TI Within breath changes in respiratory impedance and correlations with forced spirometry during bronchochallenge in normal and asthmatic subjects.
AU MacLeod D; Van Der Putten W; Prichard J

CS Dep. Clin. Med., Trinity Coll., St. James's Hosp., Dublin, UK
SO British Thoracic Society Summer Meeting, Dublin, Ireland, June 30-July 2, 1993. Thorax 48 (10). 1993. 1068-1069. ISSN: 0040-6376
DT Conference
LA English
ST ABSTRACTS; HUMAN; METHACHOLINE; DIAGNOSTIC-DRUG; BRONCHOCONSTRICTION; STATISTICS; **ANALYTICAL METHOD**; DIAGNOSTIC METHOD
RN 55-92-5 (METHACHOLINE)
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Mathematical Biology and Statistical Methods *04500
Biochemistry-Gases 10012
Biochemical Studies-General 10060
Biophysics-General Biophysical Techniques 10504
Pathology, General and Miscellaneous-Diagnostic *12504
Metabolism-Energy and Respiratory Metabolism 13003
Respiratory System-General; Methods *16001
Respiratory System-Physiology and Biochemistry *16004
Respiratory System-Pathology *16006
Pharmacology-Drug Metabolism; Metabolic Stimulators *22003
Pharmacology-Respiratory System *22030
Immunology and Immunochemistry-Immunopathology, Tissue Immunology *34508
Allergy *35500
Public Health-Public Health Administration and Statistics *37010
BC Hominidae 86215

L88 ANSWER 4 OF 5 BIOSIS COPYRIGHT 1998 BIOSIS
AN 94:92151 BIOSIS
DN 97105151
TI Oxygen saturation during methacholine challenge in a mixed population.
AU Renwick D S; Connolly M J
CS Manchester Royal Infirmary, Manchester, UK
SO British Thoracic Society Summer Meeting, Dublin, Ireland, June 30-July 2, 1993. Thorax 48 (10). 1993. 1068. ISSN: 0040-6376
DT Conference
LA English
ST ABSTRACTS; HUMAN; METHACHOLINE; DIAGNOSTIC-DRUG; BRONCHOCONSTRICTION; STATISTICS; **ANALYTICAL METHOD**; DIAGNOSTIC METHOD
RN 55-92-5 (METHACHOLINE)
7782-44-7 (OXYGEN)
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Mathematical Biology and Statistical Methods *04500
Biochemistry-Gases 10012
Biochemical Studies-General 10060
Biophysics-General Biophysical Techniques 10504
Pathology, General and Miscellaneous-Diagnostic *12504
Metabolism-Energy and Respiratory Metabolism 13003
Respiratory System-General; Methods *16001
Respiratory System-Pathology *16006
Pharmacology-Drug Metabolism; Metabolic Stimulators *22003
Pharmacology-Respiratory System *22030
Public Health-Public Health Administration and Statistics *37010
BC Hominidae 86215

L88 ANSWER 5 OF 5 BIOSIS COPYRIGHT 1998 BIOSIS
AN 92:316996 BIOSIS
DN BR43:17721
TI PREOPERATIVE PREDICTION OF MORBIDITY FOLLOWING LOBECTOMY.
AU DALES R E; DIONNE G; SCHWEIZER I
CS DEP. MED., UNIV. OTTAWA, CAN.
SO 1992 INTERNATIONAL CONFERENCE OF THE AMERICAN LUNG ASSOCIATION AND THE AMERICAN THORACIC SOCIETY, MIAMI BEACH, FLORIDA, USA, MAY 17-20, 1992. AM REV RESPIR DIS 145 (4 PART 2). 1992. A306. CODEN: ARDSBL ISSN: 0003-0805
DT Conference
LA English
ST ABSTRACT HUMAN SPIROMETRY MODIFIED DYSPNEA INDEX SICKNESS IMPACT PROFILE EXERCISE TESTING STATISTICS THERAPEUTIC METHOD
ANALYTICAL METHOD
CC **General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520**
Mathematical Biology and Statistical Methods *04500
Behavioral Biology-Human Behavior 07004
Biochemistry-Gases 10012
Biophysics-General Biophysical Techniques *10504
Anatomy and Histology, General and Comparative-Surgery *11105
Physiology, General and Miscellaneous-Stress *12008
Physiology, General and Miscellaneous-Exercise and Physical Therapy *12010
Pathology, General and Miscellaneous-Diagnostic *12504
Pathology, General and Miscellaneous-Therapy *12512
Metabolism-Energy and Respiratory Metabolism *13003
Respiratory System-General; Methods *16001
Respiratory System-Pathology *16006
Psychiatry-General; Medical Psychology and Sociology *21001
BC Hominidae 86215